

***Aspire T600/AcerPower FV
Service Guide***

Service guide files and updates are available
on the AIPG/CSD web; for more information,
please refer to <http://csd.acer.com.tw>

Revision History

Please refer to the table below for the updates made on Aspire T600/AcerPower FV service guide.

Date	Chapter	Updates

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Conventions

The following conventions are used in this manual:

Screen messages	Denotes actual messages that appear on screen.
NOTE	Gives bits and pieces of additional information related to the current topic.
WARNING	Alerts you to any damage that might result from doing or not doing specific actions.
CAUTION	Gives precautionary measures to avoid possible hardware or software problems.
IMPORTANT	Reminds you to do specific actions relevant to the accomplishment of procedures.

Preface

Before using this information and the product it supports, please read the following general information.

1. This Service Guide provides you with all technical information relating to the BASIC CONFIGURATION decided for Acer's "global" product offering. To better fit local market requirements and enhance product competitiveness, your regional office MAY have decided to extend the functionality of a machine (e.g. add-on card, modem, or extra memory capability). These LOCALIZED FEATURES will NOT be covered in this generic service guide. In such cases, please contact your regional offices or the responsible personnel/channel to provide you with further technical details.
2. Please note WHEN ORDERING FRU PARTS, that you should check the most up-to-date information available on your regional web or channel. If, for whatever reason, a part number change is made, it will not be noted in the printed Service Guide. For ACER-AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFERENT part number code to those given in the FRU list of this printed Service Guide. You MUST use the list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

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System Specifications

Overview

All the new Socket-T motherboards come with a socket protector that has to be removed before you fit the CPU. This is to prevent damage to the pins inside the CPU socket before the chip is inserted.

The new CPU socket is known as Socket-T and the new processors will be of LGA775 type. LGA stands for Land Grid Array and means that there are no pins on the bottom of the CPU, although there are still contact surfaces - no less 775 of them. The CPU interface has been moved to the motherboard socket and this is a way for Intel to get fewer returns in terms of damaged CPUs due to bent or broken pins.

Aspire T600/AcerPower FV are versatile, high-power system, supporting Intel LGA775 CPUs. The computer uses Peripheral Component Interface (PCI) and Accelerated Graphics Port (AGP) design. This improves system efficiency and helps the system support varied multimedia and software applications.

Below will introduce K5 (Aspire T600/AcerPower FV) outline :

- ☐ Use Intel on die VGA chipset to lower the overall platform cost
- ☐ Provide the most time-to-market spec.
 - ☐ Support Intel 775 pin mainstream CPU up to P4 3.4GHz/FSB 800
 - ☐ On Board Intel VGA performace great graphic power than previous AGP 8X
- ☐ Aspire T600 will be the product name for consumer market
- ☐ AcerPower FV will be the product name for commercial market

Features

Form Factor

- ☐ Expected PCB size: ATX (244*244mm)
- ☐ PCB Layer : 4 Layers

CPU

- ☐ Supports Inte Pentium 4 Prescott 775/FSB 533/800 NMHz
- ☐ Supports Intel Celeron Prescott 775/FSB 533 MHz
- ☐ CPU Socket Type with LGA 775 pins socket

Chipset

- ☐ Northbridge: Intel 915GV
- ☐ Southbridge: Intel ICH6

Memory

- ☐ 4 DDR DIMM memory slots (supports up to 4GB memory)
- ☐ Supports 256Mb/512Mb/1Gb DDR technologies for x8 and x16 non-ECC DDR devices
- ☐ Supports dual channel DDR 400/333 DIMM
- ☐ Registered DIMM not supported
- ☐ Supports 2.6V DDR DIMM

Slots

- ☐ 1 PCI Express x1 slot
- ☐ LAN on Board Realtek RTL8100C

IDE Connections

- ☐ Slot Type : 40 pin PATA IDE Slot
 - ☐ Slot Quantity : 1
 - ☐ Transfer Rate support :
 - PIO Mode : 0/1/2/3/4
 - ATA Mode : 33/66/100
 - ☐ Device Type Support are HDD/CD-ROM/CD-RW/DVD-ROM/Combo/DVD burner
- ☐ Connector Type : SATA IDE Connector
 - ☐ Connector Quantity : 2
 - ☐ Storage Type Support is HDD

FDD Connections

- ☐ Slot Quantity : 1
- ☐ Support 1.44MB 3.5" Devices

Onboard LAN

- ☐ Controller : Intel ICH6
- ☐ LAN Chip : Realtek 8100C (10/100M LAN)
- ☐ One RJ 45

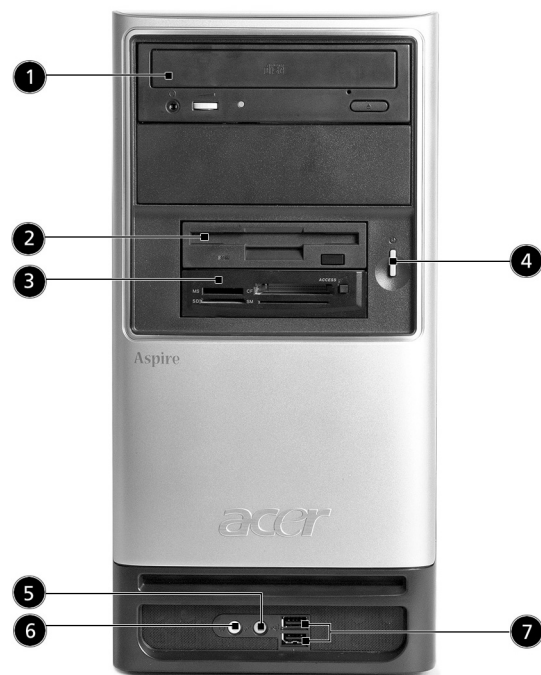
Audio

- ☐ Controller : ICH6
- ☐ Realtek ALC880 CODEC
- ☐ UAJ(Universal Audio Jack) support (rear only) (with this feature users won't have the worries about how to install speakers correctly).
- ☐ Connectors Support:
 - ☐ Lin-In/Lin-Out (rear)
 - ☐ Microphone In (rear) / Microphone In (front -- default)
 - ☐ Headphone Out (front --default) / Headphone In (rear)

All On-board Connectors

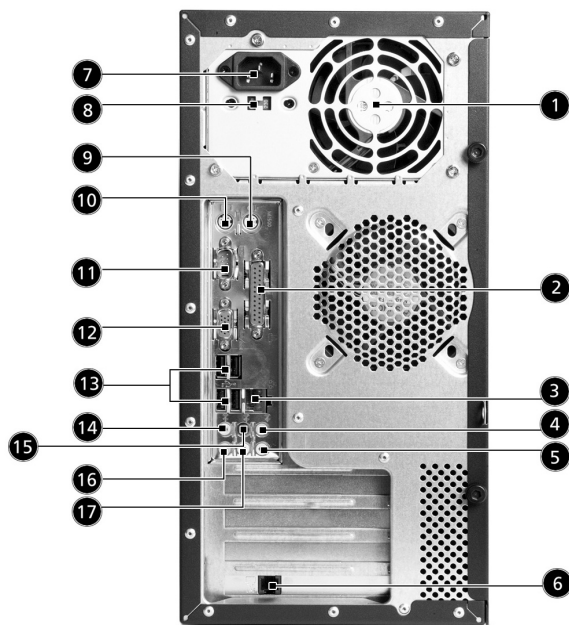
- ☐ Rear I/O Connectors
 - ☐ 1 PS/2 Keyboard Port, 1 PS/2 Mouse Port
 - ☐ 1 Parallel Port, 1 Serial Port
 - ☐ 1 VGA Port
 - ☐ 1 LAN Port
 - ☐ 4 USB Ports
 - ☐ 6 Ports Jack Support HD audio output
- ☐ On-board Connectors
 - ☐ 1 CPU Socket
 - ☐ 4 Memory DIMM
 - ☐ 1 PCI Express x1 Slot
 - ☐ 1 FDD Slot
 - ☐ 1 PATA IDE Slot
 - ☐ 2 SATA IDE Slots
 - ☐ 1 2*5 pin Intel FPIO Specification USB pin Connectors
 - ☐ 2 1*5 pin USB pin Connector
 - ☐ 1 Serial Port pin Connector
 - ☐ 1 Aux in 4 pin Connector (CD-ROM Audio Input)
 - ☐ 1 3pin or 4 pin CPU Fan Connector
 - ☐ 1 24pin and 4 pin ATX Interface PS3/PS2 SPS Connector
 - ☐ 1 2*4pin Intel FPIO Specification Power Switch/Power State
- ☐ LED/HDD Active LED
 - ☐ 1 2pin LAN Activity Monitor Connector
 - ☐ 2 Reserved 2pin GPIO Connector
 - ☐ Color Management for On Board Connector

Aspire T600 Front Panel



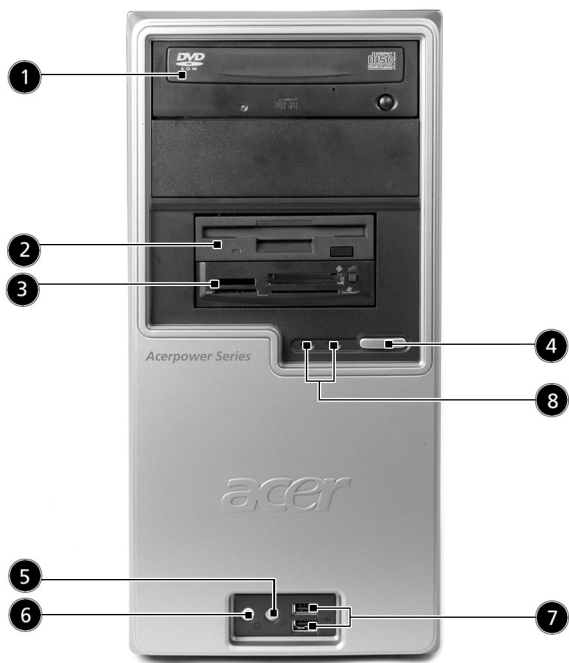
No.	Description	No.	Description
1	Optical Device	2	Floppy Drive
3	Multimedia Card Reader	4	Power Button
5	Microphone Jack	6	Speaker or Headphone Jack
7	USB 2.0 Ports		

Aspire T600 Rear Panel



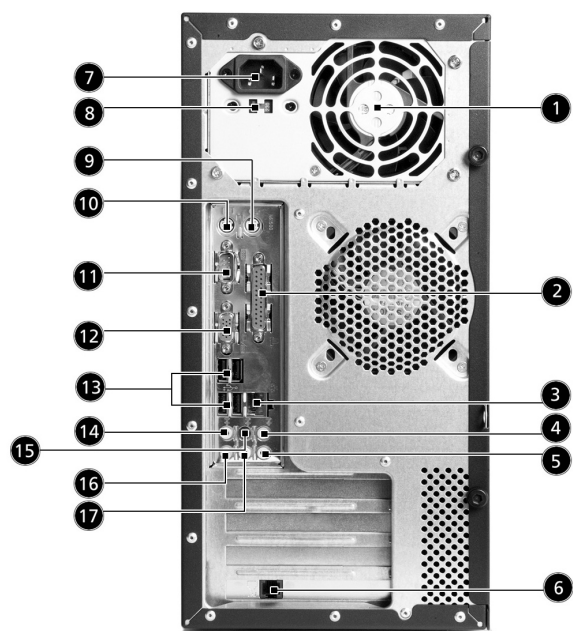
No.	Description	No.	Description
1	Fan Aperture	2	Printer Connector
3	RJ-45 Ethernet Connector	4	Center-Surround/Subwoofer Jack
5	Line-in Jack	6	Modem Card (Optional)
7	Power Cord Socket	8	Voltage Selector Switch
9	Ps/2 Mouse Connector	10	PS/2 Keyboard Connector
11	Serial Port	12	VGA Port
13	USB 2.0 Ports	14	Side-surround Jack
15	Rear-surround Jack	16	Microphone-in Jack
17	Line-out / Front-surround Jack		

AcerPower FV Front Panel



No.	Description	No.	Description
1	Optical Drive	2	Floppy Drive
3	Multimedia Card Reader (Optical)	4	Power Button
5	Microphone Jack	6	Speaker or Headphone Jack
7	USB 2.0 Ports	8	Indicator

AcerPower FV Rear Panel



No.	Description	No.	Description
1	Fan Aperture	2	Printer Connector
3	RJ-45 Ethernet Connector	4	Center-Surround/Subwoofer Jack
5	Line-in Jack	6	Modem Card (optional)
7	Power Cord Socket	8	Voltage Selector Switch
9	PS/2 Mouse Connector	10	PS/2 Keyboard Connector
11	Serial Port	12	VGA Port
13	USB 2.0 Ports	14	Side-Surround Jack
15	Rear-Surround Jack	16	Microphone-In Jack
17	Line-out / Front-Surround Jack		

System Peripherals

The Aspire T600 and AcerPower FV computers consist of the system itself, and system peripherals, like a mouse, a keyboard and a set of speakers (optional). This section provides a brief description of basic system peripherals.

Mouse (PS/2 or USB, Manufacturing Option)

The included mouse is a standard two-button wheel mouse. Connect the mouse to the PS/2 mouse port or USB port on the back panel of the system.



Keyboard (PS/2 or USB, manufacturing option)

Connect the keyboard to the PS/2 keyboard port or USB port on the back panel of the system.



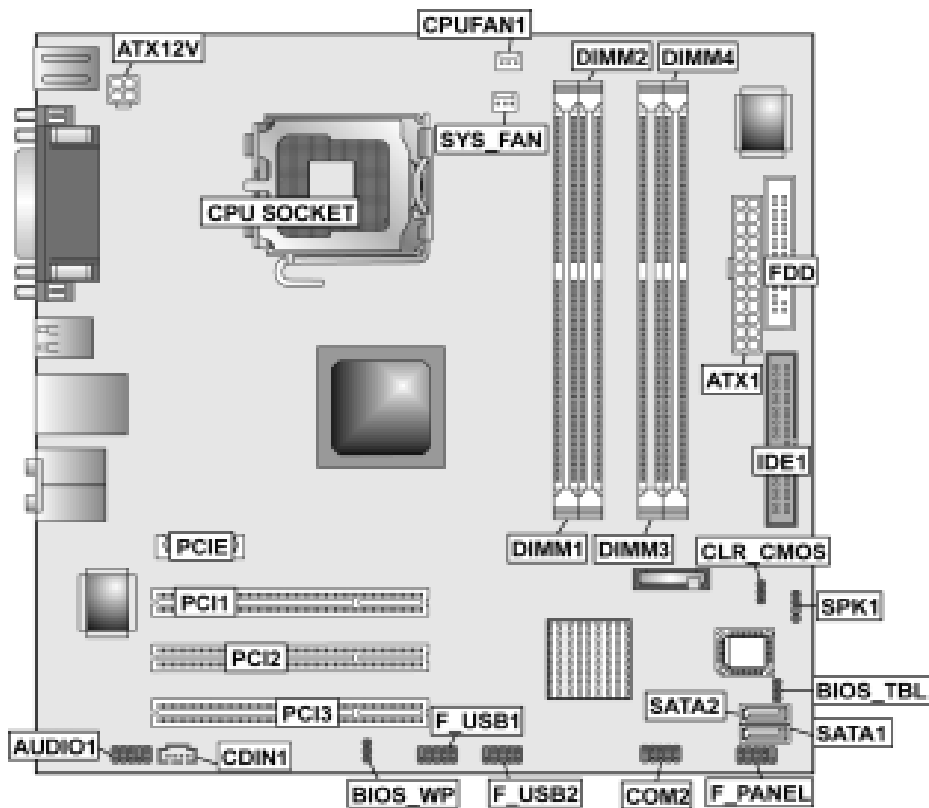
Speakers

For systems bundled with speakers, before powering on the system, connect the speaker cable to the audio-out (external speaker) port on the back panel of the system.

NOTE: Speakers are optional and the appearance might be different, depending on the actual product.

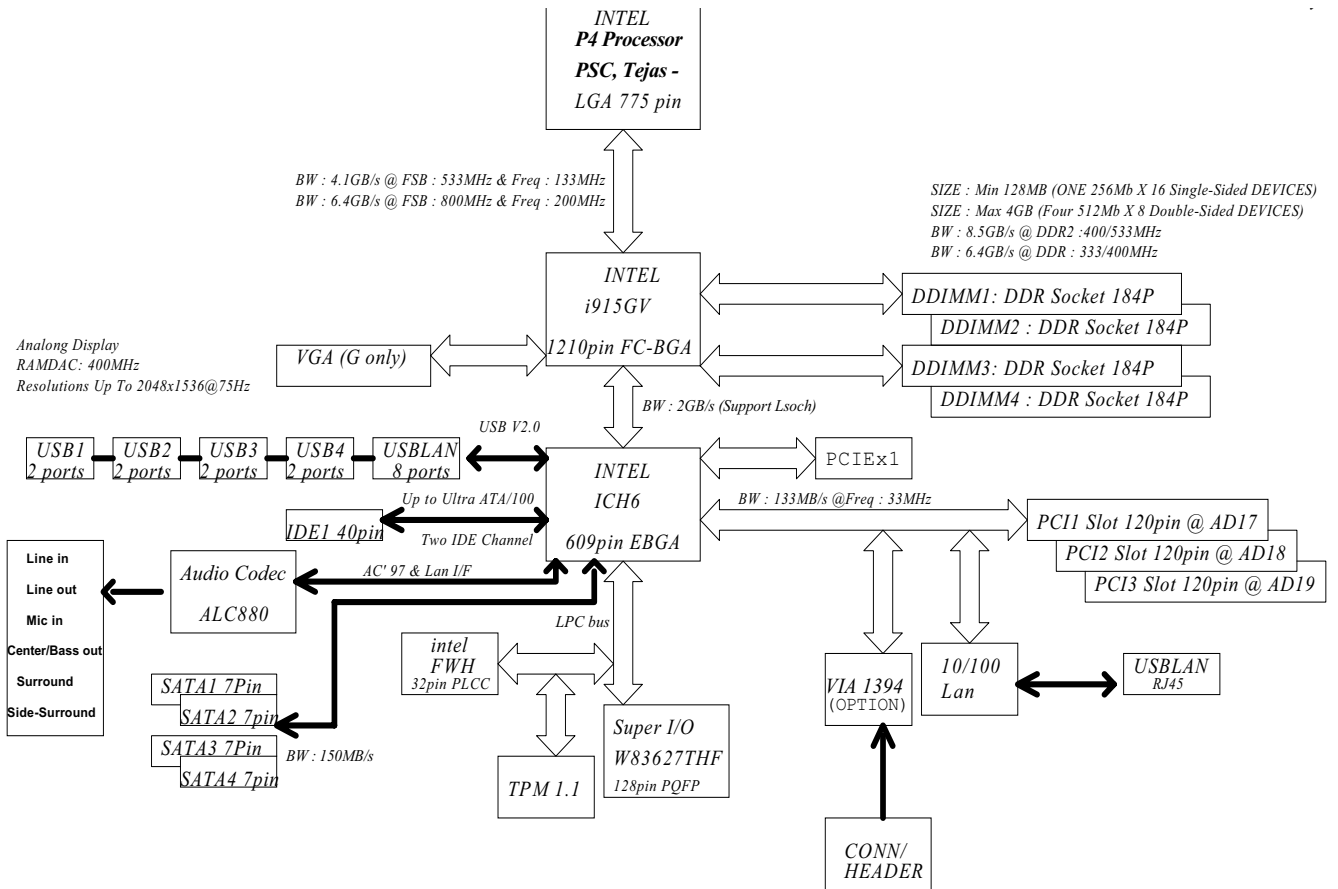


MainBoard Layout



Item	Description
ATX1	Standard 24-pin ATX power connector
ATX12V	ATX12V power connector
AUDIO1	Front panel audio header
BIOS_TBL	BIOS TBL jumper
BIOS_WP	BIOS flash protect jumper
CDIN1	Primary CD-in connector/ Auxiliary Audio input connector
CLR_CMOS	Clear CMOS jumper
COM2	Onboard serial port header
CPU SOCKET	LGA775 socket for Pentium 4 CPUs
CPUFAN1	CPU cooling fan connector
DIMM1~ DIMM4	Four 184-pin DDR SDRAM slots
FDD	Floppy disk drive connector
F_PANEL	Front Panel switch/LED header
F_USB1 ~ F_USB2	Front panel USB headers
IDE 1	Primary IDE connector
PCI1 ~ PCI3	Three 32-bit add-on card slots
PCIE	PCI Express x1 slot
SATA1 ~ SATA2	Two Serial ATA connectors
SPK1	Speaker Header
SYS_FAN	System Fan Controller

Block Diagram



Hardware Specifications and Configurations

System Board Major Chip

Item	Specification
System Core Logic	Intel 915GV ICH6
Super I/O Controller	W83627THF
LAN Controller	ICH6
Memory Controller	Build in Intel 82915GV(Champ North Bridge)
E-IDE Controller	Build in ICH6 (champion South Bridge)
Audio Codec	Azalia (ALC880)
LPC Controller	WINBOND (W83627THF-AW)
LAN	Realtek 8100C (10/100M LAN)
Keyboard Controller	WINBOND (W83627THF-AW)

Processor

Item	Specification
Vendor/Type	Intel/Prescott and Tejas Processor
CPU Socket Type	Socket-T (LGA 775)
Speed	Depends on CPU, which is local configured
Bus Frequency	533/800 MHz
Voltage	Processor voltage can be detected by any system without setting any jumper

BIOS

Item	Specification
BIOS code programmer	AMI
BIOS ROM type	Q Flash ROM
BIOS ROM size	4MB
BIOS ROM package	32-pin PLCC package
Support protocol	PCIX 1.0,PCI 2.2,APM 1.2,VESA/DPMS (VBE/PM V1.1), SMBIOS 2.3, E-IDE 1.1, ACPI 1.0b,ESCD1.03, PnP 1.0a, Bootable CD-ROM 1.0, USB 1.1~ USB 2.0, UHCI 1.0, ANSI ATA 3.0 ATAPI
Boot from CD-ROM feature	Yes
Support to LS-120 drive	Yes
Support to BIOS boot block feature	Yes
BIOS Password Control	Yes

NOTE: The BIOS can be overwritten/upgraded by using "AFLASH" utility (AFLASH.EXE).

BIOS Hotkey List

Hotkey	Function	Description
	Enter BIOS Setup Utility	Press while the system is booting to enter BIOS Setup Utility.

System Memory

Item	Specification
Memory Slot(s) Number	4
Supported Memory Size per Slot	256 MB/ 512 MB / 1GB DDR for x8 and x16 non-ECC DDR type module support
Supported Maximum Memory Size	4GB
Supported Memory Speed	333/400 MHz
Supported memory voltage	2.6 V
Support memory module package	184-pin DIMM
Support to parity check feature	Yes
Support to Error Correction Code (ECC) feature	No
Support to Registered DIMM	No
Support maximum bandwidth	6.4GB/s in dual-channel interleaved mode using DDR 400MHz

Bus Architecture

Item	Description
PCI Express 1X	1 PCS
PCI Slot	3 PCS
LAN on Board REALTEK RTL8100C	

Cache Memory

Item	Specification
First-Level Cache Configurations	
Cache function control	Enable/Disable by BIOS Setup
Second-Level Cache Configurations	
The information below is only applicable to system installed with a Pentium 4 processor	
Tag RAM Location	On Processor
L2 Cache RAM Location	On Processor
L2 Cache RAM type	PBSRAM (Pipelined-burst Synchronous RAM)
L2 Cache RAM size	Depends on CPU, which is local configured
L2 Cache RAM speed	Full of the processor core clock frequency (Advanced Transfer Cache)
L2 Cache function control	Enable/Disable by BIOS Setup
L2 Cache scheme	Fixed in write-back

LAN Interface

Item	Specification
LAN Controller	Intel ICH6
LAN Chip	Realtek 8100C
LAN Controller Resident Bus	PCI Bus
LAN Port	ONE RJ-45 on board
Design Criteria	Design be worked under 10/100 Mbs environment
Function Control	Reserved disable function on both hardware & BIOS side. Default is enabled

IDE Interface

Item	Specification
IDE Controller	Built-in ICH6
IDE Controller Resident Bus	PCI bus
Number IDE Channel	2
Supported IDE Interface	E-IDE (up to PIO mode-4, DMA mode 2 and Ultra DMA-33), ANSIS ATA rev. 3.0, ATAPI
Supports LS-120	Yes
Supports bootable CD-ROM	Yes
Function Control	Enable/Disable by BIOS setup

Diskette Drive Interface

Item	Specification
Diskette Drive Controller	W83627THF
Diskette Drive Controller Resident Bus	LPC Bus
Supported Diskette Drive Formats	1.44MB, 2.88MB format and slim type diskette drive
Function Control	Supports Automatic Write Protection via Software

Serial Port

Item	Specification
Serial port controller	W83627THF
Serial port controller resident bus	LPC Bus
Number of serial port	2
Serial port location	CON1,CN2
16C550 UART support	Yes
Connector type	9-pin D-type female connector
Optional serial port I/O address (via BIOS Setup)	3F8h 2F8h 3E8h 2E8h
Optional serial port IRQ (via BIOS Setup)	IRQ4

System LED Definition

LED	Definition
Power State LED	
S0	Green Steady
S1/S3	Amber Steady
S4/S5	Off
HDD State LED	
IDE Active	Green Blinking
IDE Idle	Off
LAN State LED	
LAN Active	Green Blinking
LAN Idle	Off

USB Port

Item	Specification
USB Controller	ICH6
Connectors Quantity	8
☐ Rear Connectors	4
☐ On-board Header	4
☐ 2 for front daughter board (Pin: 2x5 Intel FPIO)	
☐ 1 for Media card reader (Pin: 1*5)	
Data Transfer Rate Support	USB 2.0/1.1
Universal HCI	USB 2.0 ports for serial transfers at 480Mbps/Sec. Max. Legacy Keyboard and Mouse support

Memory Address Map

Address	Size	Function
0000000 - 009FFFF	640 KB System Memory	Onboard DRAM
00A0000-00BFFFF	128 KB Video RAM	Reserved for Graphics Display Buffer Non-Cacheable
00C0000-00CFFFF	32 KB I/O Expansion ROM	Reserved for ROM on I/O Adapters
00D0000-00D3FFF	16 KB I/O Expansion ROM	Reserved for ROM on I/O Adapters
00D4000-00D7FFF	16 KB I/O Expansion ROM	Reserved for ROM on I/O Adapters
00D8000-00DBFFF	16 KB I/O Expansion ROM	Reserved for ROM on I/O Adapters
00DC000-00DFFFF	16 KB I/O Expansion ROM	Reserved for ROM on I/O Adapters
00E0000-00E7FFF	32 KB for SCSI BIOS	Reserved for SCSI BIOS
00E8000-00EFFFF	32 KB	Reserved Onboard
00F0000-00FFFFFF	64 KB BIOS	System ROM BIOS (ROM) System RAM BIOS (DRAM)

Dual Channel

Aspire T600/AcerPower FV support the Dual Channel Technology. After operating the dual channel technology, the bandwidth of memory bus will add double up to 6.4GB/s.

Aspire T600/AcerPower FV include 4 DIMM sockets, and each channel has two DIMM sockets as following:

- ❑ Channel A : DDR1, DDR2
- ❑ Channel B : DDR3 , DDR4

If you want to operate the Dual Channel Technology, please note the following explanations due to the limitation of Intel chipset specifications.

Memory Number		Description
1	Only one DDR memory module is installed ?	The Dual Channel Technology can't operate when only one DDR memory module is installed.
2	Two DDR memory modules are installed (the same memory size and type) ?	The Dual Channel Technology will operate when two memory modules are inserted individually into Channel A and B. If you install two memory modules in the same channel, the Dual Channel Technology will not operate.
3	Three DDR memory modules are installed ?	Please note that the Dual Channel Technology will not operate when three DDR memory modules are installed; part of them will not be detected.
4	Four DDR memory modules are installed ?	If you install four memory modules at the same time, the Dual Channel Technology will operate only when those modules have the same size and type.

NOTE: We strongly recommend user to slot two DDR memory modules into the DIMMs with the same color in order for Dual Channel Technology to work.

The following tables include all memory-installed combination types:

Dual Channel Technology (DS: Double Side, SS: Single Side)

	DDR1	DDR2	DDR3	DDR4
2 memory modules	DS/SS	X	DS/SS	X
	X	DS/SS	X	DS/SS
4 memory modules	DS/SS	DS/SS	DS/SS	DS/SS

Don't operate Dual Channel Technology (DS:Double Side, SS: Single Side)

	DDR1	DDR2	DDR3	DDR4
1 memory module	DS/SS	X	X	X
	X	DS/SS	X	X
	X	X	DS/SS	X
	X	X	X	DS/SS
2 memory module	DS/SS	DS/SS	X	X
	X	X	DS/SS	DS/SS
3 memory module	DS/SS	DS/SS	DS/SS	X
	DS/SS	DS/SS	X	DS/SS
	DS/SS	X	DS/SS	DS/SS
	X	DS/SS	DS/SS	DS/SS

Memory Address Map

Address	Size	Function
0100000-0F9FFFF	System Memory	Onboard DRAM
0FA0000-0FFFFFFF	384 KB I/O Card Memory	Reserved for Memory Map I/O Card Non-Cacheable
1000000-FFFFFFF	System Memory	Onboard DRAM

PCI INTx# and IDSEL Assignment Map

PCI INTx #	PCI Devices	Device IDSEL: ADxx
INTA#	ADIMM-slot	N
INTB#	PCI-Slot1	AD16
INTC#	PCI-Slot2	AD17

PCI Slot IRQ Routing Map

PCI INTX#	INTA	INTB	INTC	INTD	Bus Mastering
PCI slot 1	INTE	INTCD	INTC	INTA	Enabled
PCI slot 2	INTD	INTC	INTA	INTE	Enabled
PCI slot 3	INTFJ	INTGJ	INTHJ	INTEJ	Enabled

I/O Address Map

Hex Range	Devices
000-01F	DMA Controller-1
020-021	Interrupt Controller-1
040-043	System Timer
060-060	Keyboard Controller 8742
061-061	System Speaker
070-071	CMOS RAM Address and Real Time Clock
080-08F	DMA Page Register
0A0-0A1	Interrupt Controller-2
0C0-0DF	DMA Controller-2
0F0-0FF	Math Co-Processor
170-177	Secondary IDE
1F0-1F7	Primary IDE
278-27F	Parallel Printer Port 2
2F8-2FF	Serial Asynchronous Port 2
378-37F	Parallel Printer Port 1
3F0-3F5	Floppy Disk Controller
3F6-3F6	Secondary IDE
3F7-3F7	Primary IDE
3F8-3FF	Serial Asynchronous Port 1
0CF8	Configuration Address Register
0CFC	Configuration Data Register
778-77A	Parallel Printer Port 1

IRQ Assignment Map

IRQx	System Devices	Add-On-Card Devices
IRQ0	Timer	N
IRQ1	Keyboard	N
IRQ2	Reserved	N
IRQ3	Serial Port 2	Reserved
IRQ4	Serial Port 1	Reserved
IRQ5	Reserved	Reserved
IRQ6	Floppy Disk	Reserved
IRQ7	Parallel Port	Reserved
IRQ8	Real Time Clock	N
IRQ9	N	Reserved
IRQ10	N	Reserved
IRQ11	N	Reserved
IRQ12	PS/2 Mouse	Reserved
IRQ13	Numeric Processor	N
IRQ14	Embedded Hard Disk	Reserved
IRQ15	Reserved	Reserved

NOTE: N - Not be used

DRQ Assignment Map

DRQx	System Devices	Add-On-Card Devices
DRQ0	N	Reserved
DRQ1	N	Reserved
DRQ2	FDD	N
DRQ3	N	Reserved
DRQ4	Cascade	N
DRQ5	N	Reserved
DRQ6	N	Reserved
DRQ7	N	Reserved

NOTE: N - Not be used

Environmental Requirements

Item	Specifications
Temperature	
Operating	+5°C to +35°C
Non-operating	-20°C ~ +60°C (Packed) -10°C~+60°C (un-packed)
Humidity	
Operating	15% to 80% RH, non-condensing
Non-operating	10% to 90% RH, non-condensing at 40°C
Vibration	

Environmental Requirements

Item	Specifications
Vibration unpacked	5~500 Hz, 2.20g RMS random, 10 minutes per axis in all 3 axes
Vibration packed	5~500 Hz, 1.09g RMS random, 1 hour per axis in all 3 axes
Shock operating	Half sine, 2 g 11m seconds

Mechanical Specifications

Item	Specification
Dimensions(main footprint)	180(w)x360(H)x420(D)mm

Power Management Function (ACPI support function)

Device Standby Mode

- ☐ Independent power management timer for hard disk drive devices (0-15 minutes, time step=1 minute).
- ☐ Hard disk drive goes into Standby mode (for ATA standard interface).
- ☐ Disable V-sync to control the VESA DPMS monitor.
- ☐ Resume method: device activated (Keyboard for DOS, keyboard & mouse for Windows).
- ☐ Resume recovery time: 3-5 sec.

Global Standby Mode

- ☐ Global power management timer (2-120 minutes, time step=10 minute).
- ☐ Hard disk drive goes into Standby mode (for ATA standard interface).
- ☐ Disable H-sync and V-sync signals to control the VESA DPMS monitor.
- ☐ Resume method: Return to original state by pushing external switch button, modem ring in, keyboard and mouse for APM mode.
- ☐ Resume recovery time: 7-10 sec.

Suspend Mode

- ☐ Independent power management timer (2-120 minutes, time step=10 minutes) or pushing external switch button.
- ☐ CPU goes into SMM.
- ☐ CPU asserts STPCLK# and goes into the Stop Grant State.
- ☐ LED on the panel turns amber colour.
- ☐ Hard disk drive goes into SLEEP mode (for ATA standard interface).
- ☐ Disable H-sync and V-sync signals to control the VESA DPMS monitor.
- ☐ Ultra I/O and VGA chip go into power saving mode.
- ☐ Resume method: Return to original state by pushing external switch button, modem ring in, keyboard and mouse for APM mode.
- ☐ Return to original state by pushing external switch button, modem ring in and USB keyboard for ACPI mode.

ACPI

- ☐ ACPI specification 1.0b.
- ☐ S0, S1, S3 and S5 sleep state support.
- ☐ On board device power management support.
- ☐ On board device configuration support.

System Utilities

BIOS (Basic Input and Output System) includes a CMOS SETUP utility which allows user to configure required setting or to active certain system features.

The CMOS SETUP saves the configuration in the CMOS SRAM of the mainboard. When the power is turned off, the battery on the mainboard supplies the necessary power to the CMOS SRAM.

When the power is turned on, pushing the <Del> button during the BIOS POST (Power-On Self Test) will take you to the CMOS SETUP screen. When setting up BIOS for the first time, it is recommended that you save the current BIOS to a disk in the event that BIOS needs to be reset to its original settings.

Q-Flash allows the user to quickly and easily update or backup BIOS without entering the operating system.

BIOS is a Window s-based utility that doesn't required users to boot to DOS before upgrading BIOS but directly download and update BIOS from the Internet.

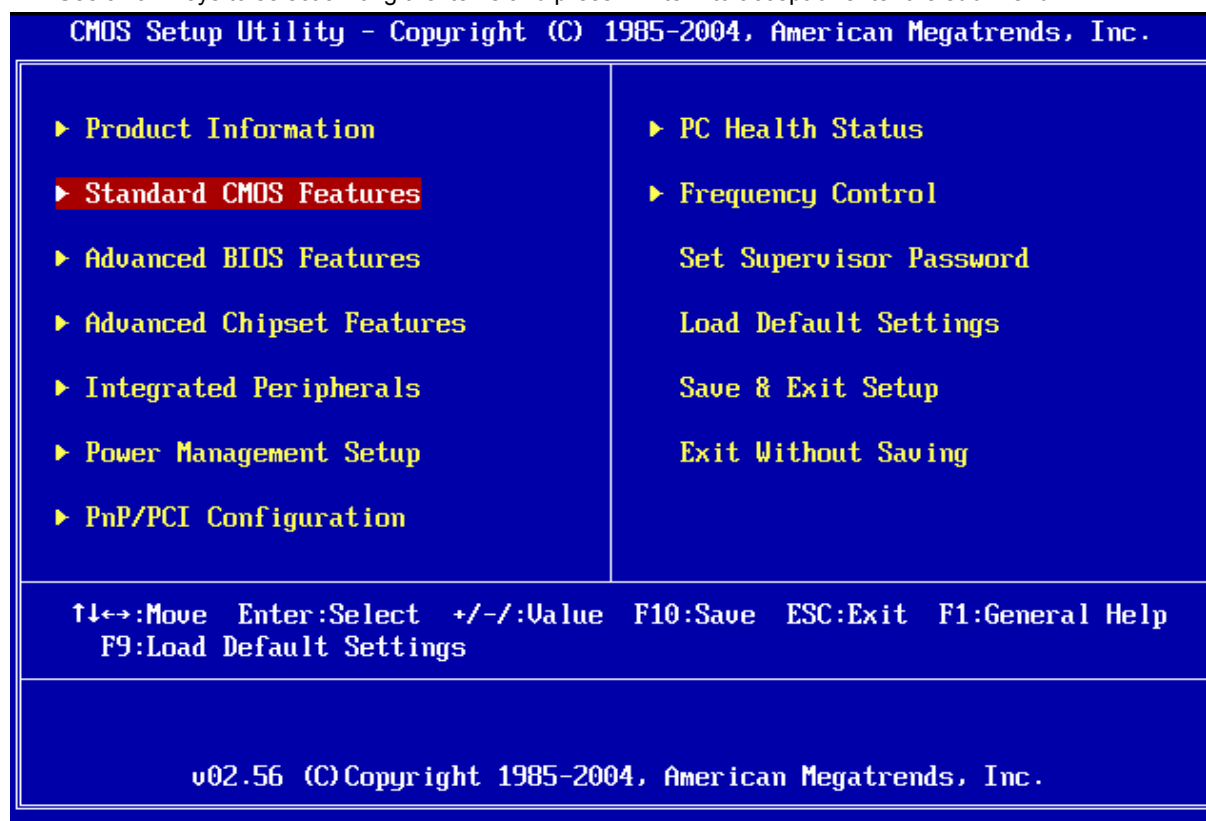
Control Keys

Item	Description
	Move to selection
	Main Menu: Quit and not save changes into CMOS Status Page Setup Menu and Option Page Setup Menu, Exit current page and return to Main Menu.
	Increase the numeric value or make changes
	Decrease the numeric value or make changes
	Displays a screen that describes all key functions
	Loads an optimized setting for better performance
	Saves the current configuration and exits setup

Entering Setup

Once enter Award BIOS CMOS Setup Utility, the Main Menu (as figure below) will appear on the screen.

Use arrow keys to select among the items and press <Enter> to accept or enter the sub-menu.

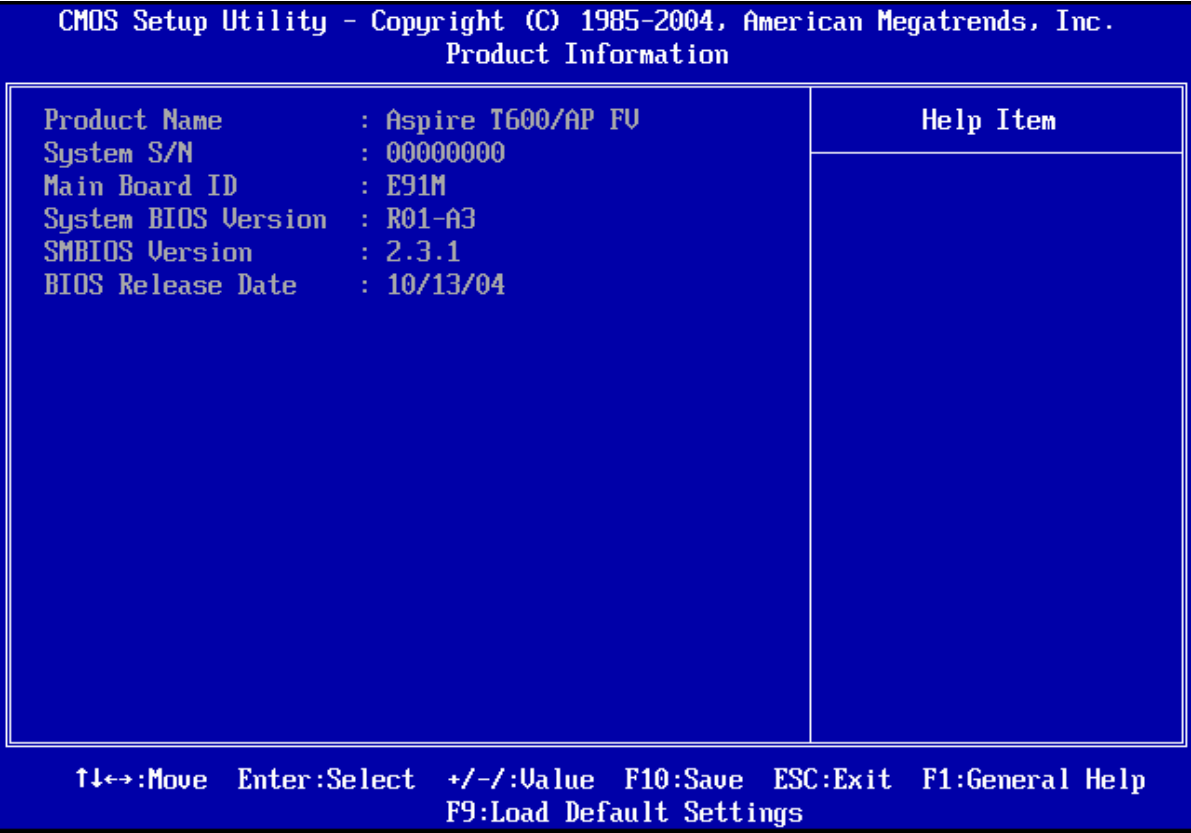


Parameter	Description
Product Information	To introduce the Product Name, System P/N and Mainboard ID...etc
Standard CMOS Features	This setup page includes all the items in standard compatible BIOS
Advanced BIOS Features	This setup page includes all the items of Award special enhanced features
Advacned Chipset Features	The values for the chipset can be changed through this menu, and the system performance can be optimized
Integrated Peripherals	This setup page includes all onboard peripherals
Power Management Setup	This setup page includes all the items of Green function features
PnP/PCI Configuration	This setup page includes all configurations of PCI&PnP ISA resources
PC Health Status	This setup page is the System auto detect Temperature, voltage, fan and speed
Frequency Control	Frequency and voltage settings can be loaded through this menu
Set Supervisor Password	Change, set or disable password. It allows you to limit access to the system and Setup, or just to Setup
Load Default Settings	These parameter settings can be loaded through this menu, however, the stable default values may be affected
Save & Exit Setup	Save CMOS value settings to CMOS and exit setup
Exit Without Saving	Abandon all CMOS value changes and exit setup

Product Information

The screen below appears if you select Product Information from the main menu.

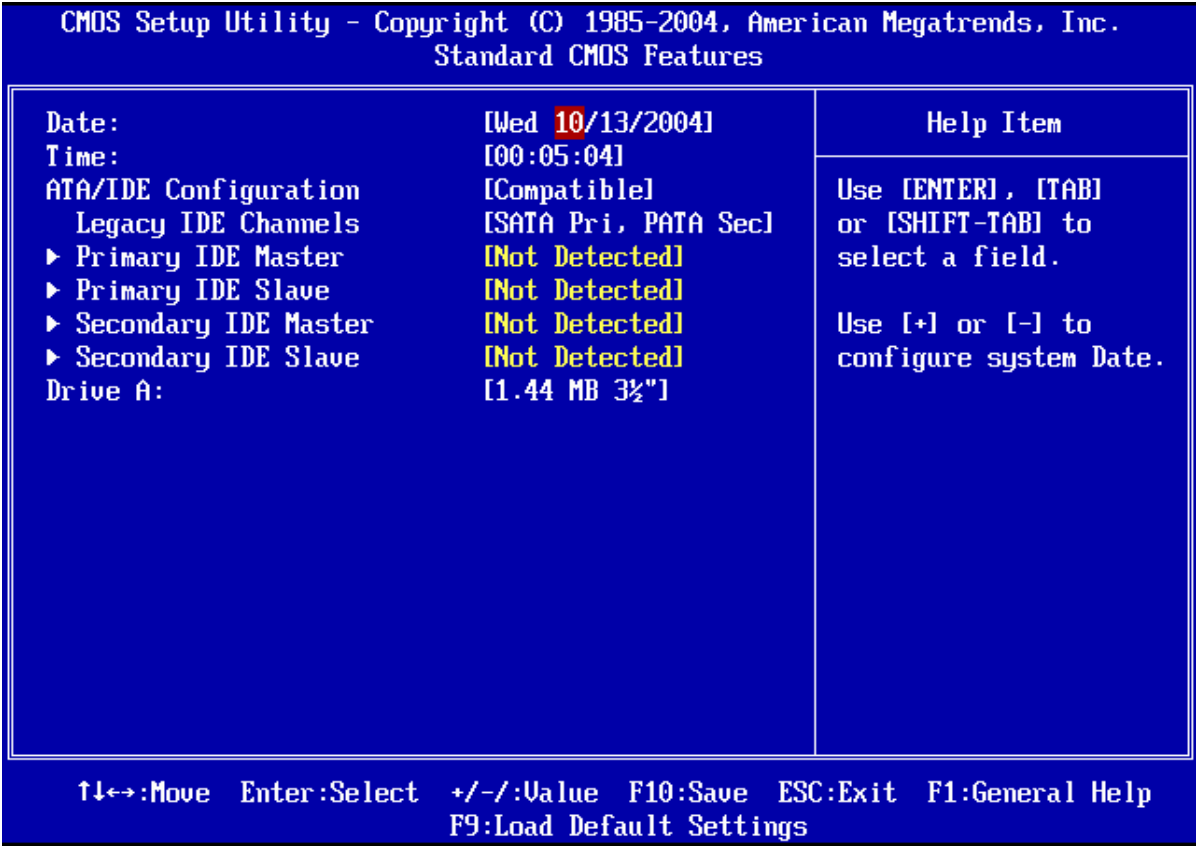
The Product Information menu contains gerenal data about the system, such as the product name, serial number, BIOS version, etc. These information is necessary for troubleshooting (maybe required when asking for technical support).



Parameter	Description
Product Name	Displays the model name of your system
System S/N	Displays your system's serial number
Main Board ID	Displays the main board's indentification number
System BIOS Version	Specifies the version of BIOS utility
SMBIOS Version	The System Management Interface (SM) BIOS allows you to check the system hardware components without actually opening the system. Hardware checking is done via software during start up. This parameter specifies the version of the SMBIOS utility installed in your system
BIOS Release Date	MM/DD/YYYY

Standard CMOS Features

Select Standard CMOS Features from the main menu to configure some basic parameters in your system.
The following screen shows the Standard CMOS Features menu:



The following table describes the parameters found in this menu:

Parameter	Description	Options
Date	Lets you set the date following the weekday-month-day-year format	Week : from Sun. to Sat., determined by BIOS and is display only Month : from Jan. through Dec. Day : from 1 to 31 (or the maximum allowed in the month) Year : from 1999 to 2098
Time	Lets you set the time following the hour-minute-second format	The items format is <hour> <minut><second>. The time is calculated base on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00
ATA/IDE Configuration	The ATA/IDE option can be configured as "Disabled", "Compatible (default)" and "Enhanced" in the BIOS configuration. Windows* 98SE and Windows* Me operating systems do not support Enhanced mode IDE/Serial ATA resources for more than four devices. If the ATA/IDE option is set to Enhanced mode, the operating installation will not be able to recognize the drive, and the installation will fail. Before installing 98SE or Me, the ATA/IDE configuration must be changed from Enhanced to Legacy mode.	

Parameter	Description	Options
Legacy IDE Channels	Use this item to set up the primary and secondary sequence of IDE channels and SATA channel. If set ATA/IDE Configuration to Compatible mode and IDE channels to SATA Pri/PATA Sec, users can only plug in SATA devices on SATA1 and SATA2; if set ATA/IDE Configuration to Compatible mode and IDE channels as SATA Sec/PATA Pri, users can only plug in SATA devices on SATA3 and SATA4	N/A
Primary/Second IDE Master/Slave	Allows you to configure the hard disk drive connected to the master or slave port of IDE channel. To enter the IDE Primary/Secondary Master/Slave setup, press [Enter] .	N/A
Drive A	Allows you to configure you floppy drive A	360K, 5.25" : 5.25 inch PC type standard drive ; 360Kbyte capacity 1.2M, 5.25" : 5.25 inch AT-type high-density drive; 1.2M byte capacity (3.5 inch when 3 Mode is Enabled) 720K, 3.5" : 3.5 inch double-sided drive; 720Kbyte capacity 1.44M, 3.5" : 3.5 inch double-sided drive; 1.44Mbyte capacity 2.88M, 3.5" : 3.5 inch double-sided drive; 2.88Mbyte capacity

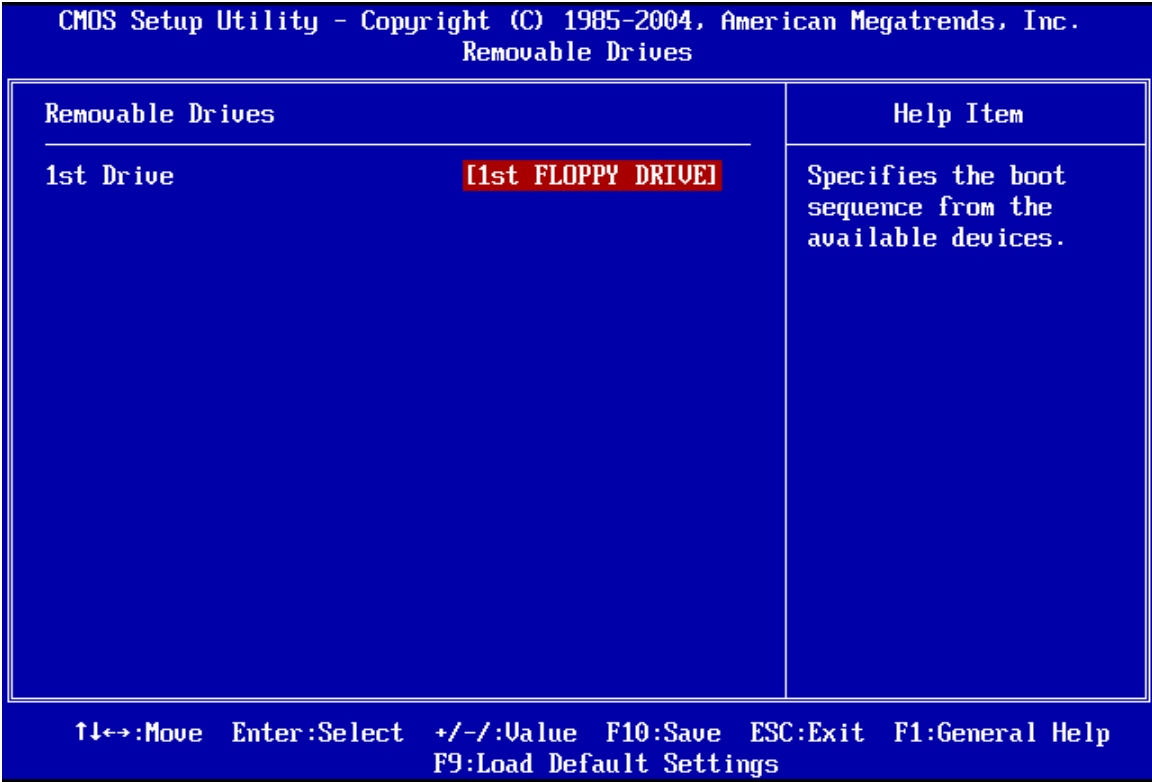
Advanced BIOS Features

The following screen shows the Advanced BIOS Features:

CMOS Setup Utility - Copyright (C) 1985-2004, American Megatrends, Inc. Advanced BIOS Features		
Virus Warning	[Disabled]	Help Item Enable/Disable Boot Sector Virus Protection.
Silent Boot	[Enabled]	
Configuration Table	[Disabled]	
Quick Power On Self Test	[Enabled]	
► Removable Drives	[Press Enter]	
First Boot Device	[1st FLOPPY DRIVE]	
Second Boot Device	[Hard Drive]	
Third Boot Device	[CD/DVD]	
Boot Other Device	[Enabled]	
Boot Up NumLock Status	[On]	
APIC Mode	[Enabled]	

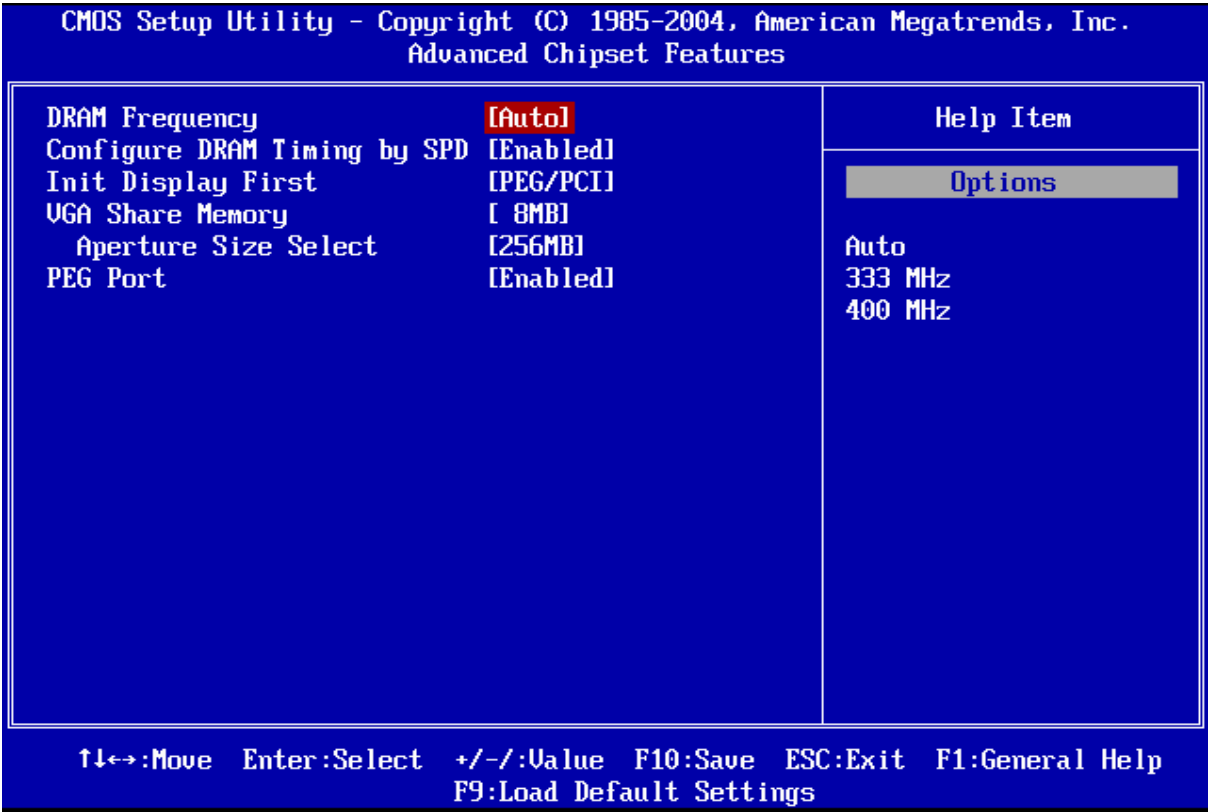
Parameter	Description	Options
Virus Warning	When enabled, this item provides protection against viruses that try to write to the boot sector and partition table of your hard disk drive. You need to disable this item when installing an operating system. We recommend that you enable this item as soon as you have installed an operating system.	Disabled Enabled
Silent Boot	This is to switch 1st screen logo (default Acer' logo)	Disabled Enabled
Configuration Table	This is to select if system configuration shown by 2nd screen or not.	Disabled Enabled
Quick Power on Self Test	Enable this item to shorten the power on testing (POST) and have your system start up faster. You might like to enable this item after you are confident that your system hardware is operating smoothly.	Disabled Enabled
First / Second / Third Boot Device	The items allow you to set the sequence of boot device where BIOS attempts to load the disk operating system	Floppy, LS120, Hard Disk, CD-ROM, ZIP, USB-FDD, USB-ZIP, USB-CDROM, USB-HDD, LAN, Disabled
Boot Other Device	When enabled, the system searches all other possible locations for an operating system if it fails to find one in the devices specified under the First, Second, and Third boot devices.	Disabled Enabled
Boot Up NumLock Status	This item defines if the keyboard Num Lock key is active when your system is started.	On Off
APIC Mode	This option enables/disables APIC (Advanced Programmable Interrupt Controller) functionality. The APIC is an Intel chip that provides symmetric multiprocessing (SMP) for its Pentium systems.	Disabled Enabled

Removable Drives



Advanced Chipset Features

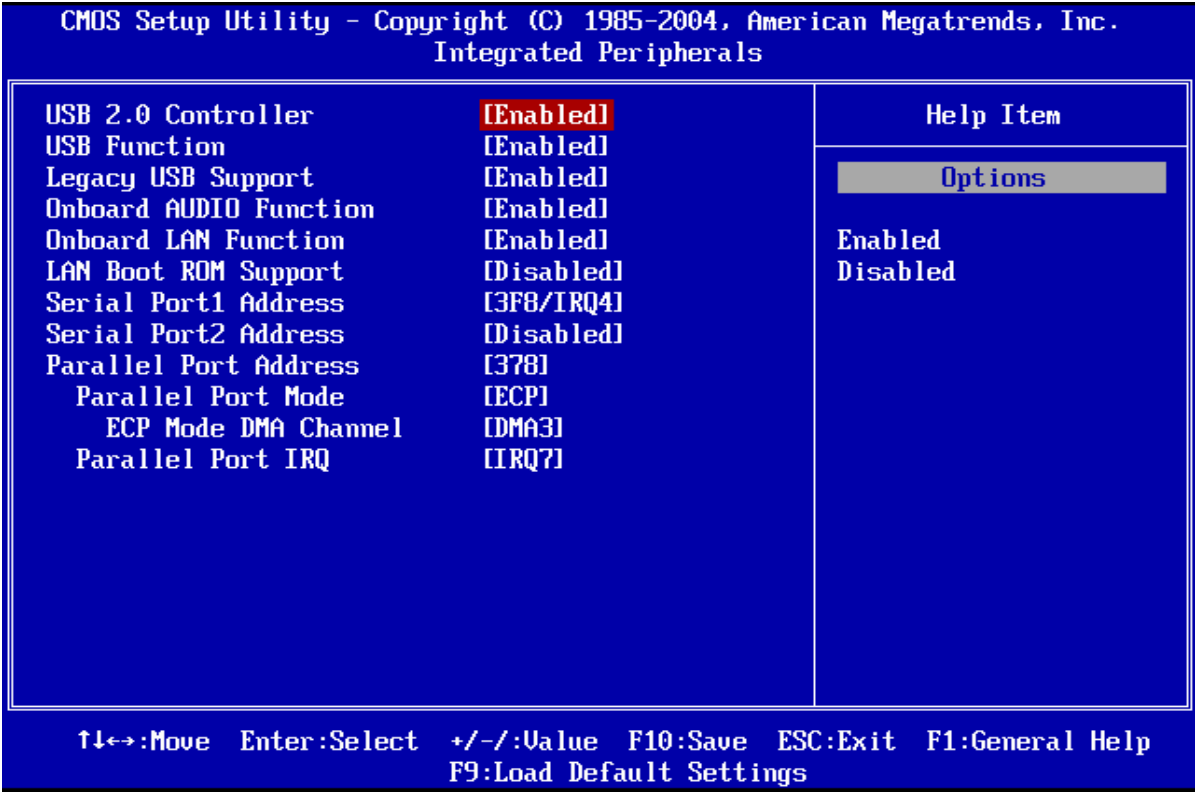
The advanced chipset features setup option is used to change the values of the chipset registers. These registers control most of the system options in the computer.



Parameter	Description
DRAM Frequency	This item determines frequency of DRAM memory.
Configure DRAM Timing by SPD	Enables you to select the CAS latency time in HCLKs of 2, 2.5, or 3. The value is set at the factory depending on the DRAM installed. Do not change the values in this field unless you change specifications of the installed DRAM or the installed CPU.
DRAM CAS# Latency	This item determines the operation of DRAM memory CAS (column address strobe). It is recommended that you leave this item at the default value. The 3T setting requires faster memory that specifically supports this mode. Please be noted that the item would be hidden when set Configure DRAM Timing by SPD to Enabled.
DRAM RAS# to CAS# Delay	This field lets you insert a timing delay between the CAS and RAS strobe signals, used when DRAM is written to, read from, or refreshed. Disabled gives faster performance; and Enabled gives more stable performance. Please be noted that the item would be hidden when set Configure DRAM Timing by SPD to Enabled.
DRAM RAS# Precharge	Select the number of CPU clocks allocated for the Row Address Strobe (RAS#) signal to accumulate its charge before the DRAM is refreshed. If insufficient time is allowed, refresh may be incomplete and data lost. Please be noted that the item would be hidden when set Configure DRAM Timing by SPD to Enabled.
DRAM RAS# Activate to Precharge	The precharge time is the number of cycles it takes for DRAM to accumulate its charge before refresh. Please be noted that the item would be hidden when set Configure DRAM Timing by SPD to Enabled.

Parameter	Description
Init Display First	Use this item to specify whether your graphics adapter is installed in one of the PCI slots or is integrated on the mainboard
VGA Share Memory	This item shows the VGA memory size borrowed from main memory capacity.
Aperture Size Select	This item defines the size of the aperture if you use an AGP graphics adapter. The AGP aperture refers to a section of the PCI memory address range used for graphics memory. We recommend that you leave this item at the default value.
PEG Port	This item enables or disables the PCI Express Graphics port function.

Integrated Peripherals



Parameter	Description	Options
USB 2.0 Controller	Enable this item if the system supports USB 2.0	Enabled : Enable USB 2.0 Controller Disabled : Disable USB 2.0 Controller
USB Function	This item is used to enable or disable the on-chip USB	Enabled Disabled
Legacy USB Support	This item allows you to enable or disable Legacy USB support.	Enabled Disabled
Onboard AUDIO Function	Enabling the on-die audio if no add-on PCI audio device	Enabled Disabled
Onboard LAN Function	Enables and disables the onboard LAN	Enabled Disabled
LAN Boot ROM Support	This function decide whether to invoke the boot ROM of the onboard LAN chip	Enabled : Enable this function Disabled : Disable this function
Serial Port 1/2 Address	This option is used to assign the I/O address and interrupt request (IRQ) for onboard serial port 1 or 2	Auto : BIOS will automatically setup the port 1 or 2 address 3F8/IRQ4 2F8/IRQ3 3E8/IRQ4 2E8/IRQ3 Diabled : Disable onboard Serial port 1 or 2

Parameter	Description	Options
Parallel Port Address	Use this item to enable or disable the onboard Parallel port, and to assign a port address.	N/A
Parallel Port Mode	Enables you to set data transfer protocol for your parallel port. There are four options: SPP (Standard Parallel Port), EPP(Enhanced Parallel Port), ECP(Extended Capabilities Port) and ECP+EPP. SPP allows data output only. Port (ECP) and Enhanced Parallel Port (EPP) are bi-Extended Capabilities directional modes, allowing both data input and output. ECP and EPP modes are only supported with EPP and ECP aware peripherals.	SPP EPP ECP ECP+EPP
ECP Mode DMA Channel	When the onboard parallel port is set to ECP mode,the parallel port can use DMA 3 or DMA 1.	1 3
Parallel Port IRQ	This item assigns either IRQ 5 or 7 to the parallel port	N/A

Power Management Setup

The Power Management menu lets you configure your system to most effectively save energy while operating in a manner consistent with your own style of computer use.

The following screen shows the Power Management parameters and their default settings:

CMOS Setup Utility - Copyright (C) 1985-2004, American Megatrends, Inc.
Power Management Setup

ACPI Suspend Type	[S3 (STR)]	Help Item
Video Off In Suspend	[Enabled]	Select the ACPI state used for System Suspend.
HDD Power Down	[Disabled]	
Soft-off by PWR-BTTN	[Delay 4 Sec]	
PWRON After PWR-Fail	[Former-Sts]	
Power On by Ring	[Disabled]	
Wake-Up by PCI Card	[Enabled]	
USB KB Wake UP From S3	[Enabled]	
PS/2 Keyboard Wakeup	[Disabled]	
PS/2 Mouse Wakeup	[Disabled]	
Resume by Alarm	[Disabled]	

↑↓↔:Move Enter:Select +/-:Value F10:Save ESC:Exit F1:General Help
F9:Load Default Settings

Parameter	Description	Options
ACPI Suspend Type	This item specifies the power saving modes for ACPI function. S1(POS): The S1 sleep mode is a low power state. In this state, no system context (CPU or chipset) is lost and hardware maintains all system context. S3 (STR): The S3 sleep mode is a power-down state in which power is supplied only to essential components such as main memory and wake-capable devices and all system context is saved to main memory. The information stored in memory will be used to restore the PC to the previous state when an wake-up event occurs.	S1 (POS) : Set ACPI suspend type to S1/POS(Power On Suspend). S3 (STR) : Set ACPI suspend type to S3/STR
Video Off In Suspend	This option defines if the video is powered down when the system is put into suspend mode.	Disabled Enabled
HDD Power Down	This option lets you specify the IDE HDD idle time before the device enters the power down state. This item is independent from the power states previously described in this section (Standby and Suspend).	Disabled 1~15 Mins
Soft-off by PWR-BTTN	This feature allows users to configure the power button function.	Instand-off : Press down button then power off instantly Delay 4 Sec. : Press power button 4 sec. to power off. Enter suspend if button is pressed less than 4 sec.

Parameter	Description	Options
POWER After PWR-Fail	This item enables your computer to automatically restart or return to its former operating status after power returns from a power failure.	Former-Sts
Power On by Ring	An input signal on the serial Ring Indicator (RI) line (in other words, an incoming call on the modem) awakens the system from a soft off state.	Disabled : Disable Power On by Ring function Enabled : Enable Power On by Ring function
Wake-Up by PCI Card	This option determines the system wakeup by PCI card	Disabled Enabled
USB KB Wake UP from S3	USB Keyboard wakeup from S3 (tandyb status)	Disabled Enabled
PS/2 Keyboard Wakeup	Set this via keyboard to power on the system	Password : Enter from 15 characters to set the Keyboard Power On Password Disabled : Disable this function Keyboard 98 : If your keyboard have "Power Key" button, you can press the key to power on the system
PS/2 Mouse Wakeup	Set this via mouse to power on the system	Disabled : Disable this function Double Click : Double click on PS/2 mouse left button to power on the system
Resume by Alarm	You can set "Resume by Alarm" item to enabled and key in Data/Time to power on system	Disabled : Disable this function Enabled : Enable alarm function to Power On system If RTC Alarm Lead To Power On is Enabled. Date (of Month) Alarm : Everyday, 1~31 Time (hh:mm:ss) Alarm: (0~23):(0~59):(0~59)

PnP/PCI Configuration

CMOS Setup Utility - Copyright (C) 1985-2004, American Megatrends, Inc.
PnP/PCI Configuration

PCI/VGA Palette Snoop	Disabled	Help Item
		ENABLED: informs the PCI devices that an ISA graphics device is installed in the system so the card will function correctly.

↑↓↔:Move Enter:Select +/-/:Value F10:Save ESC:Exit F1:General Help
F9:Load Default Settings

Parameter	Description	Options
PCI/VGA Palette Snoop	Disabled - Data read or written by the CPU is only directed to the PCI VGA device's palette registers. Enabled - Data read or written by the CPU is directed to both the PCI VGA device's palette registers and the ISA VGA device's palette registers,permitting the palette registers of both VGA devices to be identical.	Disabled Enabled

PC Health Status

CMOS Setup Utility - Copyright (C) 1985-2004, American Megatrends, Inc.
PC Health Status

CPU Shutdown Temperature	Disabled	Help Item
SMART FAN Control	Enabled	
Current CPU Temperature	:69°C/156°F	Options Disabled 90°C/194°F
Current SYSTEM Temperature	:38°C/100°F	
CPU FAN Speed	:4440 RPM	
SYS FAN Speed	:0 RPM	
CPU Ucore	:1.358 V	
1.5 V	:1.548 V	
3.3 V	:3.080 V	
5.0 V	:4.850 V	

↑↓↔:Move Enter:Select +/-:Value F10:Save ESC:Exit F1:General Help
F9:Load Default Settings

The following table describes the parameters found in this menu:

Parameter	Description	
CPU Shutdown Temperature	Enables you to set the maximum temperature the system can reach before powering down.	60° C/140° F 65° C/149°F 70° C/158° F Disabled
Current CPU Temperature	Detect CPU Temperature automatically	
Current SYSTEM Temperature	Detect SYSTEM Temperature automatically	
Current CPU / SYSTEM FAN Speed (RPM)	Detect CPU/SYSTEM Fan Speed status automatically	

Frequency Control

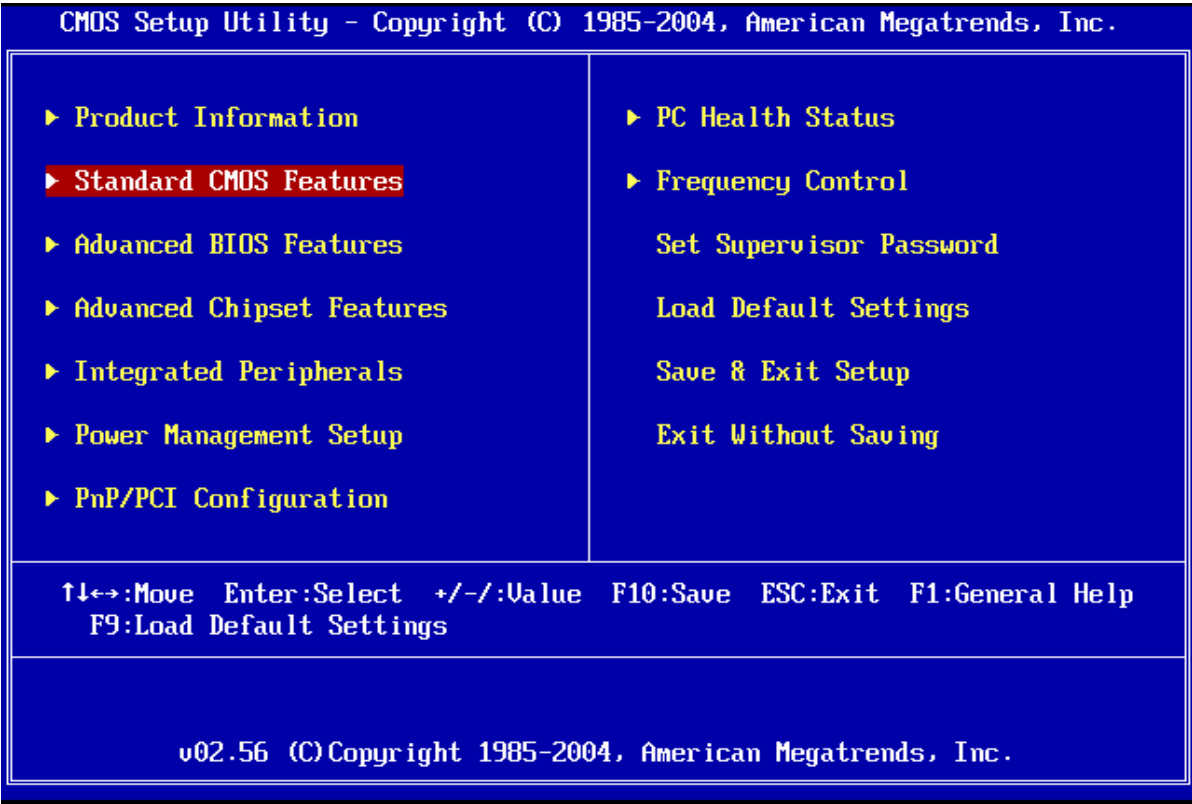
CMOS Setup Utility - Copyright (C) 1985-2004, American Megatrends, Inc. Frequency Control		
Ratio Status	Unlocked (Max:17,	Help Item Sets the ratio between CPU Core Clock and the FSB Frequency. NOTE: If a invalid ratio has been entered to this field, BIOS will restore it to previous state.
Ratio Actual Value	17	
Ratio CMOS Setting	[14]	
Auto Detect DIMM/PCI Clk	[Enabled]	
Spread Spectrum	[Enabled]	
↑↓↔:Move Enter:Select +/-:Value F10:Save ESC:Exit F1:General Help F9:Load Default Settings		

The following table describes the parameters found in this menu:

Parameter	Description	Option
Ratio CMOS Setting	This item sets the ratio between CPU Core Clock and the FSB Frequency. Users please note that if a invalid ratio has been entered to this field, BIOS will restore it to previous state.	14
Auto Detect DIMM / PCI Clk	When this item is enabled, BIOS will disable the clock signal of free DIMM and PCI slots.	Enabled Disabled
Spread Spectrum	If you enable spread spectrum, it can significantly reduce the EMI (Elector Magnetic Interference) generated by the system.	Enabled Disabled

Set Supervisor Password

When this function is selected, the following message appears at the center of the screen to assist you in creating a password.



Type the password, up to eight characters, and press <Enter>. The password typed now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection.

To disable password, just press <Enter> when you are prompted to enter password. A message will confirm the password being disabled. Once the password is disabled, the system will boot and you can enter BIOS Setup freely.

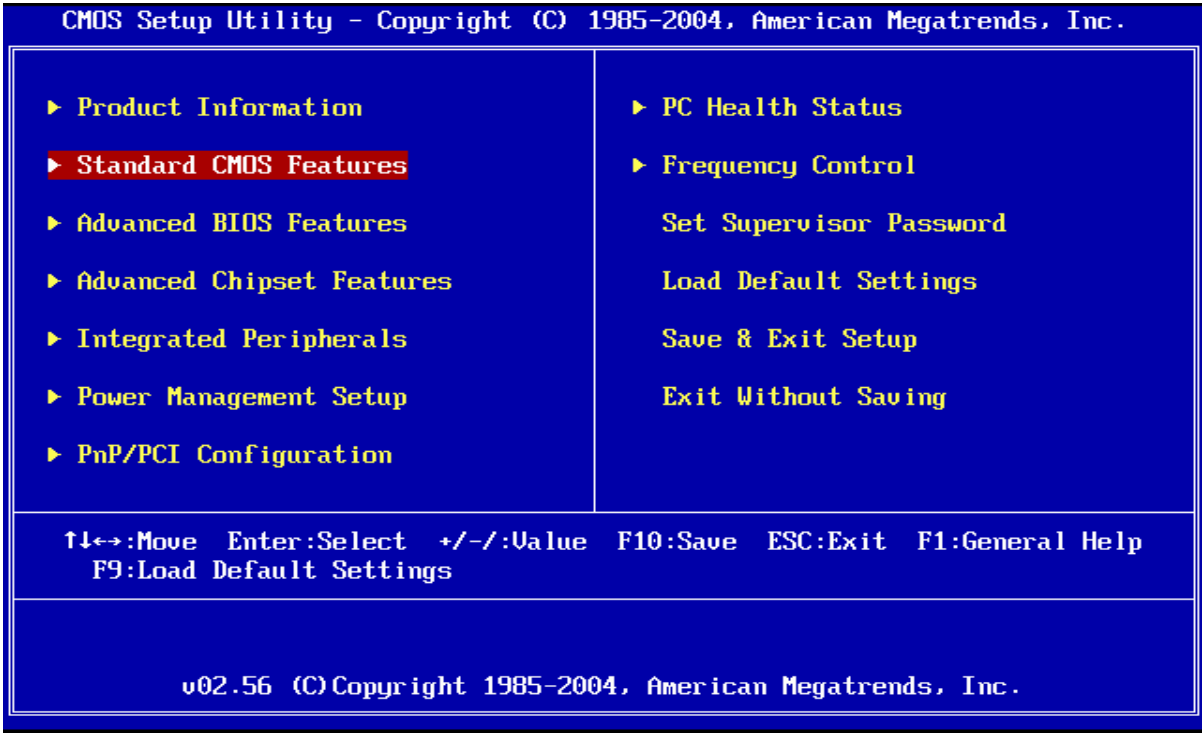
If you have selected “System” in “Security Option” of “BIOS Features Setup” menu, you will be prompted for the password every time the system reboots or any time you try to enter BIOS Setup.

If you have selected “Setup” at “Security Option” from “BIOS Features Setup” menu, you will be prompted for the password only when you enter BIOS Setup.

Supervisor Password has higher priority than User Password. You can use Supervisor Password when booting the system or entering BIOS Setup to modify all settings.

Save & Exit Setup

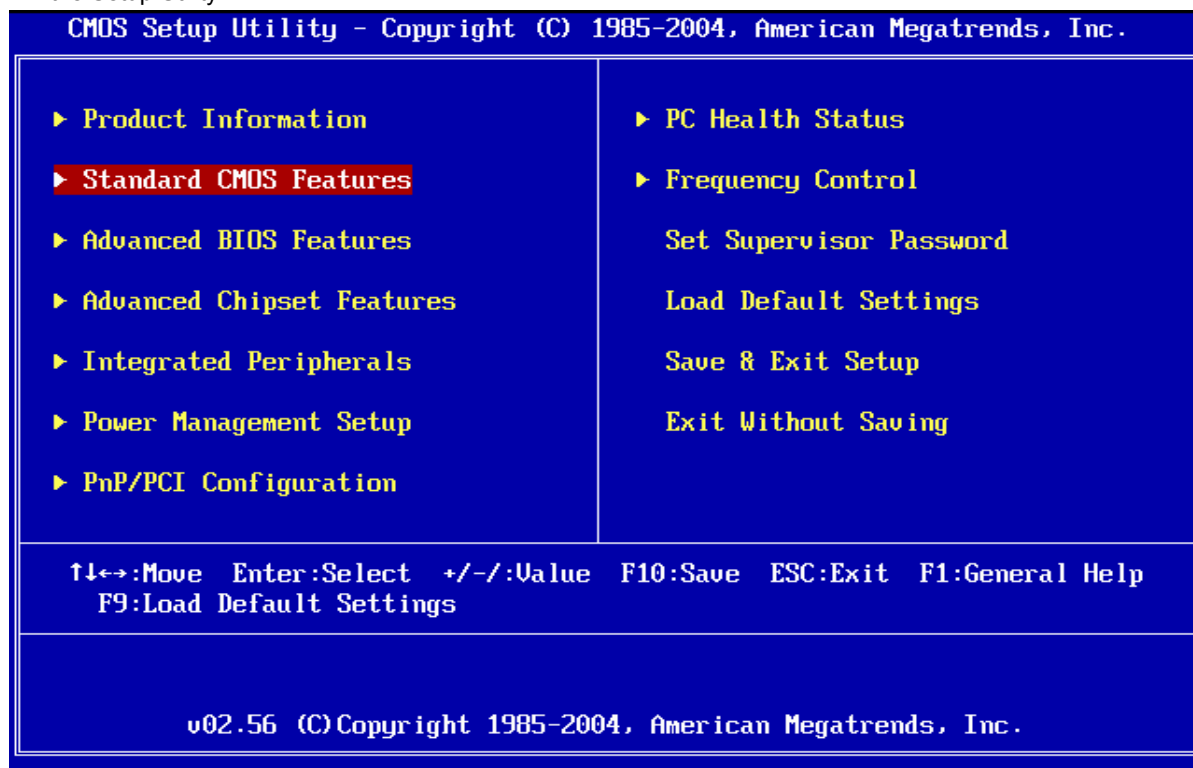
Highlight this item and press <Enter> to save the changes that you have made in the Setup Utility and exit the Setup Utility.



When the Save and Exit dialog box appears, press <Y> to save and exit, or press <N> to return to the main menu.

Exit Without Saving

Highlight this item and press <Enter> to discard any changes that you have made in the Setup Utility and exit the Setup Utility.



When the Exit Without Saving dialog box appears, press <Y> to discard changes and exit, or press <N> to return to the main menu.

NOTE: If you have made settings that you do not want to save, use the "Exit Without Saving" item and press <Y> to discard any changes you have made.

Machine Disassembly and Replacement

This chapter contains step-by-step procedures on how to disassemble the Aspire T600/AcerPower FV desktop computer for maintenance and troubleshooting.

NOTE: The screws for the different components vary in size. During the disassembly process, group the screws with the corresponding components to avoid mismatches when putting back the components.

General Information

Before You Begin

Before proceeding with the disassembly procedure, make sure that you do the following:

1. Turn off the power to the system and all peripherals.
2. Unplug the AC adapter and all power and signal cables from the system.

Disassembling the Aspire T600

Opening the Housing

This section tells you how to open the housing cover when you need to install additional components inside the system unit.

CAUTION: Before you proceed, make sure that you have turned off the system and all peripherals connected to it.

Opening the Housing

1. Place the system unit on a flat, steady surface..



2. Turn the housing back, and remove the two screws as shown here.
3. Slide the both side doors out. Then remove it.



Removing the Front Panel

1. Remove the front panel as the picture shows carefully.



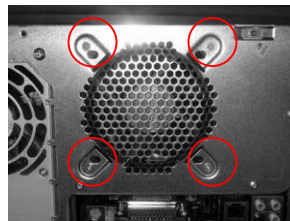
Removing the CD-ROM/FDD/HDD

1. Push on black track, and pull out CD-ROM as shown here.
2. Push on black track, and pull out FDD as shown here.
3. Push on black track, and pull out HDD as shown here..



Removing the System Fan

1. Remove the four screws as red circle shown. Then remove the system fan.

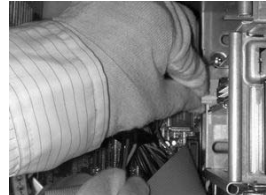


Removing the Cables

1. Disconnect the CD-ROM power cables, IDE cable.



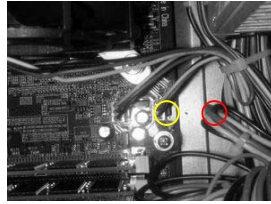
2. Disconnect the IDE cable and power cables from the rear the FDD.



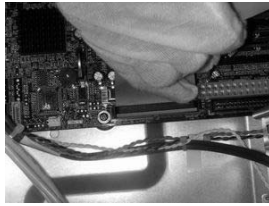
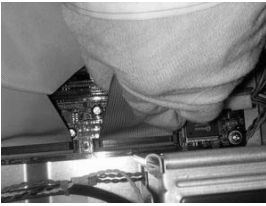
3. Disconnect the power cable and Serial ATA cable from the HDD.



4. Disconnect system fan cable (as highlight in red) and CPU fan cable (as highlight in yellow).

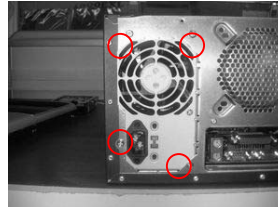
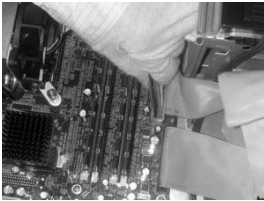


5. Disconnect the floppy cable.
6. Disconnect the IDE cable.
7. Disconnect the Serial ATA cable.
8. Disconnect the Power/HDD LED Cable and Power Switch Cable.



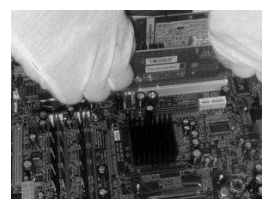
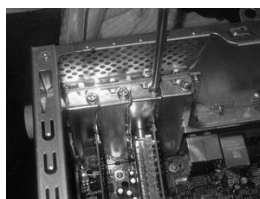
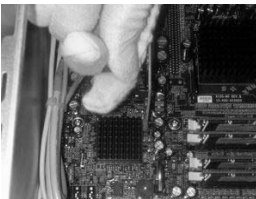
Removing the Power Supply

1. Remove the main power connector as shown here.
2. Remove the CPU power connector as shown here.
3. Remove the four screws as red circle shown. Then remove power supply.



Removing the TV Card

1. Pull out the CD-IN from TV card.
2. Remove the screws as shown here. then pull out the TV card.



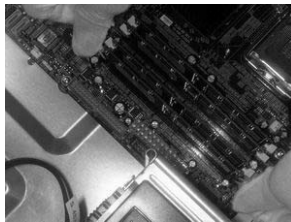
Removing the Modem Card

1. Remove the screws as shown here, pull out the modem card.



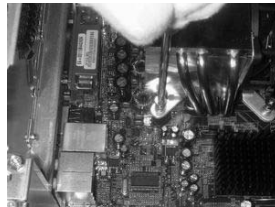
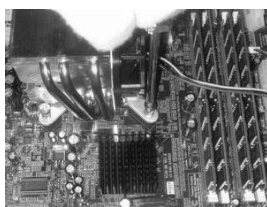
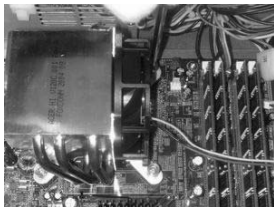
Removing the Memory

1. Pull out the memory1, memory2, memory3 and memory4. Then remove it as shown here. .

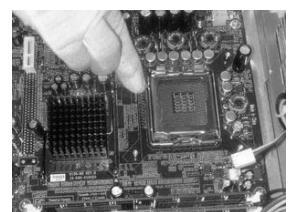
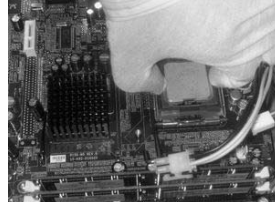
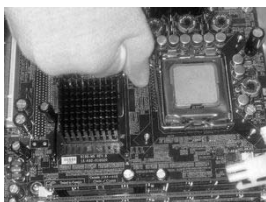


Removing the Heatsink and CPU

1. Remove the four screws as shown here, then remove heatsink module.

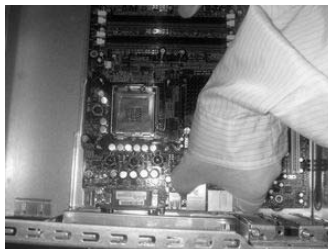
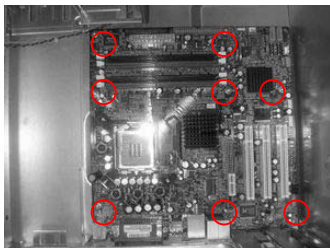


2. Pull the CPU bar up to 90 degrees and remove the CPU then press down the CPU bar to the end.



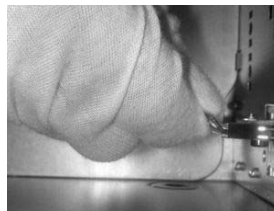
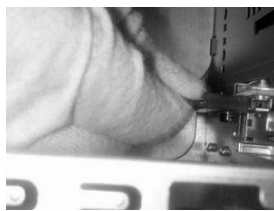
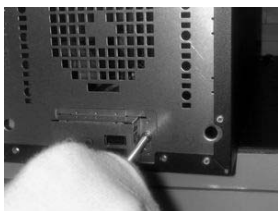
Removing the MainBoard

1. Remove the eight screws as red circle shown. Then remove the mainboard.



Removing the Daughter Board

1. Remove the screw as shown here.
2. Detach the USB cable and audio cable from the daughter board.



Disassembling the AcerPower FV

Opening the Housing

This section tells you how to open the housing cover when you need to install additional components inside the system unit.

CAUTION: Before you proceed, make sure that you have turned off the system and all peripherals connected to it.

Opening the Housing

1. Place the system unit on a flat, steady surface.



2. Turn the housing back, and remove the two screws as shown here.
3. Slide the both side doors out. Then remove them.



Removing the Front Panel

Remove the bezel by following the instruction below.

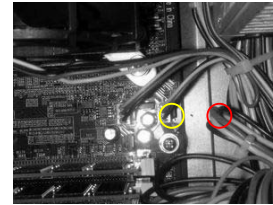
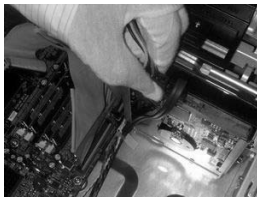


Removing the Cables

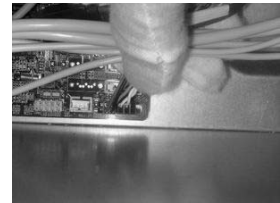
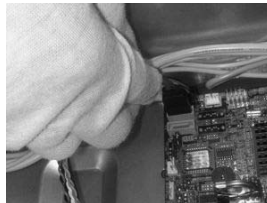
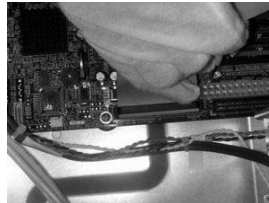
1. Disconnect the CD-ROM power cables, IDE cable.
2. Disconnect the IDE cable and power cables from the rear the FDD.



3. Disconnect the power cable and Serial ATA cable from the HDD.
4. Disconnect system fan cable (as red circle) and CPU fan cable (as yellow circle).



5. Disconnect the floppy cable.
6. Disconnect the IDE cable.
7. Disconnect the Serial ATA cable.
8. Disconnect the Power/HDD LED Cable and Power Switch Cable.



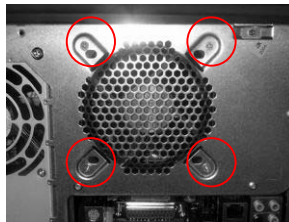
Removing the CD-ROM, FDD and HDD

1. Push on black track, and pull out CD-ROM as shown here.
2. Push on black track, and pull out FDD as shown here.
3. Push on black track, and pull out HDD as shown here.



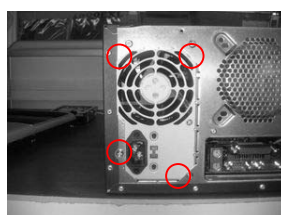
Removing the System Fan

Remove the four screws as red circle shown. Then remove the system fan.



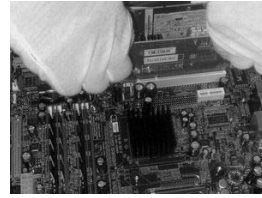
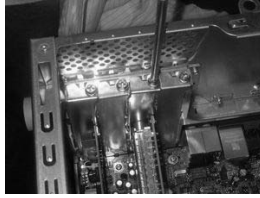
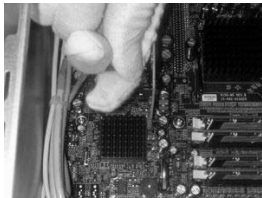
Removing the Power Supply

1. Remove the main power connector as shown here.
2. Remove the CPU power connector as shown here.
3. Remove the four screws as red circle shown. Then remove power supply.



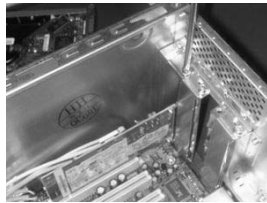
Removing the TV Card

1. Pull out the CD-IN from TV card.
2. Remove the screws as shown here. then pull out the TV card.



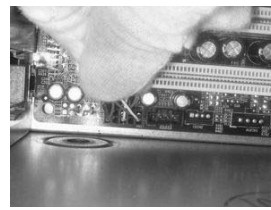
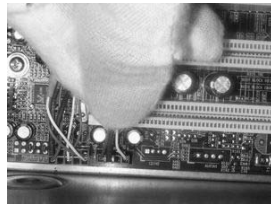
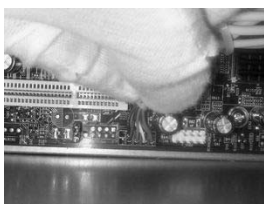
Removing the Modem Card

Remove the screws as shown here, pull out the modem card.



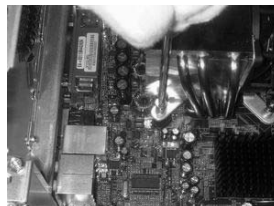
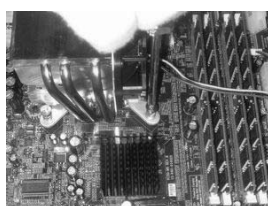
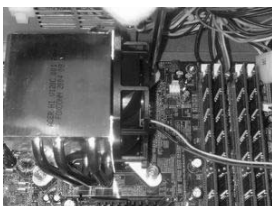
Removing the Cables

1. Disconnect the USB Cable.
2. Disconnect the Serial ATA cable.
3. Disconnect the Audio Cable.



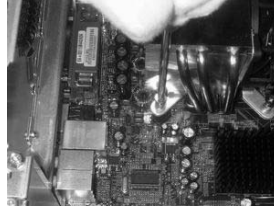
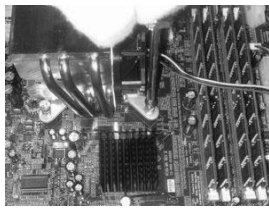
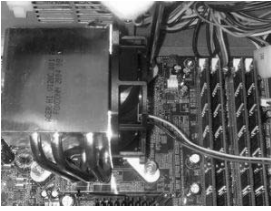
Removing the Memory

Remove the four screws as shown here, then remove heatsink module.

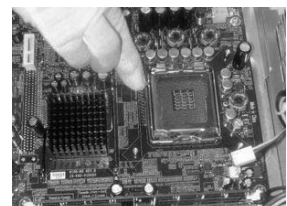
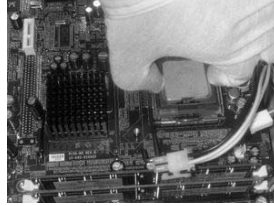
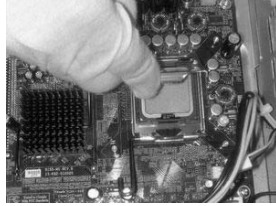
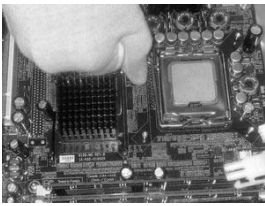


Removing the Heatsink and CPU

1. Remove the four screws as shown here, then remove heatsink module.

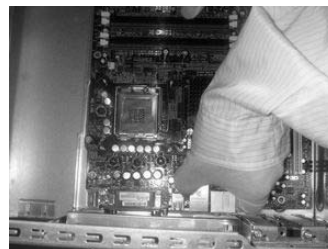
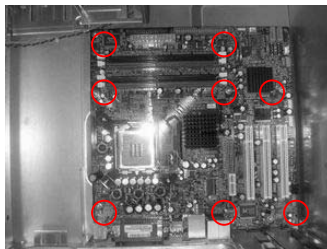


2. Pull the CPU bar up to 90 degrees and remove the CPU then press down the CPU bar to the end.



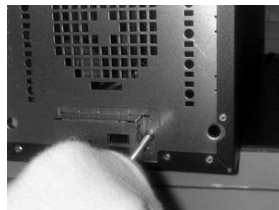
Removing the Mainboard

Remove the eight screws as red circle shown. Then remove the mainboard.



Removing the Daughter Board

1. Remove the screw as shown here.
2. Detach the USB cable and audio cable from the daughter board.



Troubleshooting

This chapter provides troubleshooting information for the Aspire T600/AcerPower FV.

- ☐ Power-On Self-Test (POST)
- ☐ Index of Error Message
- ☐ Index of Error Symptoms
- ☐ Undetermined Problems

Power-On Self-Test (POST)

Each time you turn on the system, the Power-on Self Test (POST) is initiated. Several items are tested during POST, but is for the most part transparent to the user.

The Power-On Self Test (POST) is a BIOS procedure that boots the system, initializes and diagnoses the system components, and controls the operation of the power-on password option. If POST discovers errors in system operations at power-on, it displays error messages on screen, generates a check point code at port 80h or even halts the system if the error is fatal.

The main components on the main board that must be diagnosed and/or initialized by POST to ensure system functionality are as follows:

- ☐ Microprocessor with built-in numeric co-processor and cache memory subsystem
- ☐ Direct Memory Access (DMA) controller
- ☐ Interrupt system
- ☐ Three programmable timers
- ☐ ROM subsystem
- ☐ RAM subsystem
- ☐ CMOS RAM subsystem and real time clock/calendar with battery backup
- ☐ Onboard parallel interface controller
- ☐ Embedded hard disk interface and one diskette drive interface
- ☐ Keyboard and auxiliary device controllers
- ☐ 1.44M floppy controller
- ☐ I/O ports
 - ☐ One parallel port
 - ☐ One PS/2-compatible mouse port
 - ☐ One PS/2-compatible keyboard port

NOTE: When Post executes a task, it uses a series of preset numbers called check points to be latched at port 80h, indicating the stages it is currently running. This latch can be read and shown on a debug board.

The following table describes the BIOS common tasks carried out by POST. Each task is denoted by an unique check point number. For other unique check point numbers that are not listed in the table, refer to the corresponding product service guide.

Post Checkpoints List: The list may vary accordingly depending on your BIOS

Checkpoint	Description
CFh	Test CMOS R/W functionality
C0h	Early chipset initialization: -Disable shadow RAM -Disable L2 cache (socket 7 or below) -Program basic chipset registers
C1h	Detect memory -Auto-detection of DRAM size, type and ECC. -Auto-detection of L2 cache (socket 7 or below)
C3h	Expand compressed BIOS code to DRAM
C5h	Call chipset hook to copy BIOS back to E000 & F000 shadow RAM.
01h	Expand the Xgroup codes locating in physical address 1000:0
02h	Reserved

Checkpoint	Description
03h	Initial Superio_Early_Init switch
04h	Reserved
05h	1. Blank out screen 2. Clear CMOS error flag
06h	Reserved
07h	1. Clear 8042 interface 2. Initialize 8042 self-test
08h	1. Test special keyboard controller for Winbond 977 series Super I/O chips. 2. Enable keyboard interface.
09h	Reserved
0Ah	1. Disable PS/2 mouse interface (optional) 2. Auto detect ports for keyboard & mouse followed by a port & interface swap (optional). 3. Reset keyboard for Winbond 977 series Super I/Q chips.
0Bh	Reserved
0Ch	Reserved
0Dh	Reserved
0Eh	Test F000h segment shadow to see whether it is R/W-able or not. If test fails, keep beeping the speaker.
0Fh	Reserved
10h	Auto detect flash type to load appropriate flash R/W codes into the run time area in F000 for ESCD & DMI support.
11h	Reserved
12h	Use walking 1's algorithm to check out interface in CMOS circuitry. Also set real-time clock power status, and then check for override.
13h	Reserved
14h	Program chipset default values into chipset. Chipset default values are MODBINable by OEM customers.
15h	Reserved
16h	Initial Early_Init_Onboard_Generator switch.
17h	Reserved
18h	Detect CPU information including brand, SMI type (Cyrix or Intel) and CPU level (586 or 686)
19h	Reserved
1Ah	Reserved
1Bh	Initial interrupts vector table. If no special specified, all H/W interrupts are directed to SPURIOUS_INT_HDLR & S/W interrupts to SPURIOUS_soft_HDLR.
1Ch	Reserved
1Dh	Initial Early_PM_INIT switch.
1Eh	Reserved
1Fh	Load keyboard matrix (notebook platform)
20h	Reserved
21h	HPM initialization (notebook platform)
22h	Reserved

Checkpoint	Description
23h	1. Check validity of RTC value: e.g. a value of 5Ah is an invalid value for RTC minute. 2. Load CMOS settings into BIOS stack. If CMOS checksum fails, use default value instead. 3. Prepare BIOS resource map for PCI & PnP use. If ESCD is valid, take into consideration of the ESCD's legacy information. 4. Onboard clock generator initialization. Disable respective clock resource to empty PCI & DIMM slots. 5. Early PCI initialization -Enumerate PCI bus number -Assign memory & I/O resource -Search for a valid VGA device and VGA BIOS, and put it into C000:0
24h	Reserved
25h	Reserved
26h	Reserved
27h	Initialize INT 09 buffer
28h	Reserved
29h	1. Program CPU internal MTRR (P6 & PII) for 0-640K memory address. 2. Initialize the APIC for Pentium class CPU. 3. Program early chipset according to CMOS setup. Example: onboard IDE controller. 4. Measure CPU speed. 5. Invoke video BIOS.
2Ah	Reserved
2Bh	Reserved
2Ch	Reserved
2Dh	1. Initialize multi-language 2. Put information on screen display, including Award title, CPU type, CPU speed...
2Eh	Reserved
2Fh	Reserved
30h	Reserved
31h	Reserved
32h	Reserved
33h	Reset keyboard except Winbond 977 series Super I/O chips.
34h	Reserved
35h	Reserved
36h	Reserved
37h	Reserved
38h	Reserved
39h	Reserved
3Ah	Reserved
3Bh	Reserved

Checkpoint	Description
3Ch	Test 8254.
3Dh	Reserved
3Eh	Test 8259 interrupt mask bits for channel 1
3Fh	Reserved
40h	Test 8259 interrupt mask bits for channel 2
41h	Reserved
42h	Reserved
43h	Test 8259 functionality
44h	Reserved
45h	Reserved
46h	Reserved
47h	Initialize EISA slot
48h	Reserved
49h	1. Calculate total memory by testing the last double word of each 64K. 2. Program writes allocation for AMD K5 CPU.
4Ah	Reserved
4Bh	Reserved
4Ch	Reserved
4Dh	Reserved
4Eh	1. Program MTRR of M1 CPU. 2. Initialize L2 cache for P6 class CPU & program CPU with proper cacheable range. 3. Initialize the APIC for P6 class CPU. 4. On MP platform, adjust the cacheable range to smaller one in case the cacheable ranges between each CPU are not identical.
4Fh	Reserved
50h	Initialize USB
51h	Reserved
52h	Test all memory (clear all extended memory to 0)
53h	Reserved
54h	Reserved
55h	Display number of processors (multi-processor platform)
56h	Reserved
57h	1. Display PnP logo 2. Early ISA PnP initialization -Assign CSN to every ISA PnP device.
58h	Reserved
59h	Initialize the combined Trend Anti-Virus code.
5Ah	Reserved
5Bh	(Optional Feature) Show message for entering AWDFLASH.EXE from FDD (optional)
5Ch	Reserved

Checkpoint	Description
5Dh	1. Initialize Init_Onboard_Super_IO switch. 2. Initialize Init_Onboard_AUDIO switch.
5Eh	Reserved
5Fh	Reserved
60h	Okay to enter Setup utility; i.e. not until this POST stage can users enter the CMOS setup utility.
61h	Reserved
62h	Reserved
63h	Reserved
64h	Reserved
65h	Initialize PS/2 Mouse
66h	Reserved
67h	Prepare memory size information for function call: INT 15h ax=E820h
68h	Reserved
69h	Turn on L2 cache
6Ah	Reserved
6Bh	Program chipset registers according to items described in Setup& Auto-configuration table.
6Ch	Reserved
6Dh	1. Assign resources to all ISA PnP devices. 2. Auto assign ports to onboard COM ports if the corresponding item in Setup is set to "AUTO"
6Eh	Reserved
6Fh	1. Initialize floppy controller 2. Set up floppy related fields in 40: hardware.
70h	Reserved
71h	Reserved
72h	Reserved
73h	(Optional Feature) Enter AWDFLASH.EXE if: -AWDFLASH is found in floppy drive -ALT+F2 is pressed
74h	Reserved
75h	Detect & install all IDE devices: HDD, LS120, ZIP,CDROM.....
76h	Reserved
77h	Detect serial ports & parallel ports
78h	Reserved
79h	Reserved
7Ah	Detect & install co-processor
7Bh	Reserved
7Ch	Reserved
7Dh	Reserved

Checkpoint	Description
7Eh	Reserved
7Fh	1. Switch back to text mode if full screen logo is supported. -If errors occur, report errors & wait for keys -If no errors occur or F1 key is pressed to continue: Clear EPA or customization logo.
80h	Reserved
81h	Reserved
82h	1. Call chipset power management hook. 2. Recover the text fond used by EPA logo (not for full screen logo) 3. If password is set, ask for password.
83h	Save all data in stack back to CMOS.
84h	Initialize ISA PnP boot devices.
85h	1. USB final Initialization 2. NET PC: Build SYSID structure 3. Switch screen back to text mode. 4. Set up ACPI table at top of memory. 5. Invoke ISA adapter ROMs. 6. Assign IRQs to PCI devices 7. Initialize APM 8. Clear noise of IRQs
86h	Reserved
87h	Reserved
88h	Reserved
89h	Reserved
90h	Reserved
91h	Reserved
92h	Reserved
93h	Read HDD boot sector information for Trend Anti-Virus code
94h	1. Enable L2 cache 2. Program boot up speed 3. Chipset final initialization 4. Power management final initialization 5. Clear screen & display summary table 6. Program K6 write allocation 7 Program P6 class write combining.
95h	1. Program daylight saving 2. Update keyboard LED & typematic rate
96h	1. Build MP table 2. Build & update ESCD 3. Set CMOS century to 20h or 19h 4. Load CMOS time into DOS timer tick 5. Build MSIRQ routing table
FFh	Boot attempt (INT 19h)

POST Error Messages List

If you cannot run the diagnostics program tests but did receive a POST error message, use “POST Error Messages List” to diagnose system problems. If you did not receive any error message, look for a description of your error symptoms in “Error Symptoms List” on page 120.

NOTE: When you have deemed it necessary to replace an FRU, and have done so, you must run a total system check to ensure that no other activity has been affected by the change. This system check can be done through the diagnostics program.

NOTE: Check all power supply voltages, switch, and jumper settings before you replace the main board. Also check the power supply voltages if you have a “system no-power” condition.

If you are unable to correct the problem by using the “BIOS Messages List” table and “Error Symptoms List” table, go to “Undetermined Problems”.

To diagnose a problem, first find the BIOS error messages in the left column. If directed to a check procedure, replace the FRU indicated in the check procedure. If no check procedure is indicated, the first Action/FRU listed in right column is the most likely cause.

BIOS Messages	Action/FRU
BIOS ROM checksum error - System halted	The checksum of the BIOS code in the BIOS chip is incorrect, indicating the BIOS code may have become corrupt. Contact your system dealer to replace the BIOS.
CMOS Battery Failed	The CMOS battery is no longer functional. Contact your system dealer for a replacement the BIOS.
CMOS Checksum Error- defaults loaded	Checksum of CMOS is incorrect, so the system loads the default equipment configuration. A checksum error may indicate that CMOS has become corrupt. A weak battery may have caused this error. Check the battery and replace if necessary.
CPU at nnnn	Displays the running speed of CPU.
Display switch is set incorrectly	The display switch on the motherboard can be set to either monochrome or color. This message indicates the switch is set to a different setting than indicated in Setup. Determine which setting is correct, and then either turn off the system and change the jumper, or enter Setup and change the Video selection.
Press ESC to skip memory test	The user may press Esc to skip the full memory test.
Floppy disk(s) fail	Cannot find or initialize the floppy drive controller or the drive. Make sure the controller is installed correctly, if no floppy drives are installed, be sure the Diskette Drive selection in Setup is set to NONE or AUTO.
HARD DISK initializing - Please wait a moment	Some hard drives require extra time to initialize.
HARD DISK INSTALL FAILURE	Cannot find or initialize the hard drive controller or the drive. Make sure the controller is installed correctly. If no hard drives are installed, be sure the Hard Drive Selection in Setup is set to NONE.
Hard disk(s) diagnosis fail	The system may run specific disk diagnostic routines. This message appears if one or more hard disks return an error when the diagnostics run.

BIOS Messages	Action/FRU
Keyboard Error Or No Keyboard Present	Cannot initialize the keyboard. Make sure the keyboard is attached correctly and no keys are pressed during POST. To purposely configure the system without a keyboard, set the error halt condition in Setup to HALT ON ALL, BUT KEYBOARD. The BIOS then ignores the missing keyboard during POST.
Keyboard is locked out - Unlock the key	This message usually indicates that one or more keys have been pressed during the keyboard tests. Be sure no objects are resting on the keyboard.
Memory Test:	This message displays during a full memory test, counting down the memory areas being tested.
Memory test fail	If POST detects an error during memory testing, additional information appears giving specifics about the type and location of the memory error.
Override enabled - Defaults loaded	If the system cannot boot using the current CMOS configuration, the BIOS can override the current configuration with a set of BIOS defaults designed for the most stable, minimal-performance system operations.
Press TAB to show POST screen	System OEMs may replace the Phoenix Technologies Award BIOS POST display with their own proprietary display. Including this message in the OEM display permits the operator to switch between the OEM display and the default POST display.
Primary master hard disk fail	POST detects an error in the primary master IDE hard drive.
Primary slave hard disk fail	POST detects an error in the secondary master IDE hard drive.
Secondary master hard disk fail	POST detects an error in the primary slave IDE hard drive.
Secondary slave hard disk fail	POST detects an error in the secondary slave IDE hard drive.

Error Symptoms List

NOTE: To diagnose a problem, first find the error symptom in the left column. If directed to a check procedure, replace the FRU indicated in the check procedure. If no check procedure is indicated, the first Action/FRU listed in right column is the most likely cause.

Error Symptom	Action/FRU
Processor / Processor Fan	
NOTE: Normally, the processor fan should be operative, and the processor clock setting should be exactly set to match its speed requirement before diagnosing any processor problems.	
Processor fan does not run but power supply fan runs.	1. Ensure the system is not in power saving mode. See "Power Management" in chapter 2. 2. With the system power on, measure the voltage of processor fan connector. Its reading should be +12Vdc. Its reading should be +12Vdc. If the reading shows normal, but the fan still does not work, then replace a good fan. 3. Main board.
Processor test failed.	1. Processor. 2. Main board.
Main board and Memory	
NOTE: Ensure the memory modules are installed properly and the contact leads are clean before diagnosing any system problems.	
Memory test failed.	1. See "Memory" 2. Main board
Incorrect memory size shown or repeated during POST.	1. Insert the memory modules in the DIMM sockets properly, then reboot the system. 2. Memory module. 3. Main board.
System works but fails to enter power saving mode when the Power Management Mode is set to Enabled.	1. Enter BIOS Setup and load default settings. In Windows Systems, check settings in Power Management Property of Control Panel. 2. Reload software from Recovery CD.
Blinking cursor only; system does not work.	1. Diskette/IDE drive connection/cables 2. Diskette/IDE disk drives 3. See "Undetermined Problems". 4. Main board
Diskette Drive	
NOTE: Ensure the diskette drive is auto-setting in BIOS Setup and its read/write head is clean before diagnosing any diskette drive problems.(If only one drive is installed, please make sure the drive is connected to master connector or the drive is set to master.)	
Media and drive are mismatched.	1. Ensure the diskette drive is configured correctly in the Disk Drives of BIOS Setup. 2. Ensure the diskette drive is correctly formatted. 3. Diskette drive connection/cable 4. Diskette drive 5. Main board
Diskette drive does not work.	1. Ensure the diskette drive is not set to None in the Disk Drives of BIOS Setup. 2. Diskette drive power 3. Diskette drive connection/cable 4. Diskette drive 5. Main board

Error Symptom	Action/FRU
Diskette drive read/write error.	1. Diskette. 2. Diskette drive cable. 3. Diskette drive. 4. Main board.
Diskette drive LED comes on for more than 2 minutes when reading data.	1. Diskette 2. Diskette drive connection/cable 3. Diskette drive 4. Main board
Diskette drive LED fails to light, and the drive is unable to access for more than 2 minutes.	1. Diskette 2. Diskette drive power 3. Diskette drive connection/cable 4. Diskette drive 5. Main board
Diskette drive test failed.	1. Diskette 2. Diskette drive 3. Diskette drive cable 4. Main board
Hard Disk Drive	
NOTE: Ensure hard disk drive is configured correctly in BIOS Setup, cable/jumper are set correctly before diagnosing any hard disk drive problems. (If only one drive is installed, please make sure the drive is connected to master connector or the drive is set to master.)	
Hard disk drive test failed.	1. Enter BIOS Setup and Load default settings. 2. Hard disk drive cable. 3. Hard disk drive. 4. Main board.
Hard disk drive cannot format completely.	1. Enter BIOS Setup and Load default settings. 2. Hard disk drive cable. 3. Hard disk drive. 4. Main board.
Hard disk drive has write error.	1. Enter BIOS Setup and Load default settings. 2. Hard disk drive.
Hard disk drive LED fails to light, but system operates normally.	1. With the system power on, measure the voltage of hard disk LED connector. 2. Hard drive LED cable.
CD/DVD-ROM Drive	
NOTE: Ensure CD/DVD-ROM drive is configured correctly in BIOS Setup, cable/jumper are set correctly and its laser beam is clean before diagnosing any CD/DVD-ROM drive problems.	
CD/DVD-ROM drive LED doesn't come on but works normally.	1. CD/DVD-ROM drive
CD/DVD-ROM drive LED flashes for more than 30 seconds before LED shutting off. Software asks to reinstall disc. Software displays a reading CD/DVD error.	1. CD/DVD-ROM may have dirt or foreign material on it. Check with a known good disc. 2. CD/DVD-ROM is not inserted properly. 3. CD/DVD-ROM is damaged.
CD/DVD-ROM drive cannot load or eject when the system is turned on and its eject button is pressed and held.	1. Disconnect all cables from CD/DVD-ROM drive except power cable, then press eject button to try to unload the disk. 2. CD/DVD-ROM drive power. 3. CD/DVD-ROM drive

Error Symptom	Action/FRU
CD/DVD-ROM drive does not read and there are no messages are displayed.	1. CD may have dirt or foreign material on it. Check with a known good disc. 2. Ensure the CD/DVD-ROM driver is installed properly. 3. CD/DVD-ROM drive.
CD/DVD-ROM drive can play audio CD but no sound output.	1. Ensure the headphone jack of the CD/DVD-ROM has an output. 2. Turn up the sound volume. 3. Speaker power/connection/cable. 4. CD/DVD-ROM drive.
Real-Time Clock	
Real-time clock is inaccurate.	1. Ensure the information in the <code>Standard CMOS Feature</code> of BIOS Setup is set correctly. 2. RTC battery. 3. Main board
Audio	
Audio software program invokes but no sound comes from speakers.	1. Speaker power/connection/cable.
Modem	
Modem ring cannot wake up system from suspend mode.	1. For the External Modem, make sure Power on By Ring in BIOS Setup or Power Management is set to Enabled. For the PCI modem, make sure Wake up by PCI card is set to Enabled. 2. If PCI modem card is used, reinsert the modem card to PCI slot firmly or replace the modem card. 3. In Win 98, ensure the telephone application is configured correctly for your modem and set to receive messages and/or fax.
Data/fax modem software program invokes but cannot receive/send data/fax	1. Ensure the modem card is installed properly.
Fax/voice modem software program invokes but has no sound output. (Data files are received normally; voice from modem cannot be produced, but system sound feature works normally.)	1. Ensure the modem voice-in cable from modem adapter card to main board
Video and Monitor	
Video memory test failed. Video adapter failed.	1. Remove all non-factory-installed cards. 2. Load default settings (if screen is readable). 3. Main board
Display problem: - Incorrect colors No high intensity Missing, broken, or incorrect characters Blank monitor (dark) Blank monitor (bright) Distorted image Unreadable monitor Other monitor problems	1. Monitor signal connection/cable. 2. Monitor 3. Video adapter card 4. Main board
Display changing colors.	1. Monitor signal connection/cable 2. Monitor 3. Main board

Error Symptom	Action/FRU
Display problem not listed above (including blank or illegible monitor).	1. "Monitor" 2. Load default settings (if screen is readable). 3. Main board

Error Symptom	Action/FRU
Parallel/Serial Ports	
Execute "Load BIOS Default Settings" in BIOS Setup to confirm ports presence before diagnosing any parallel/serial ports problems.	
Serial or parallel port loop-back test failed.	1. Make sure that the LPT# or COM# you test is the same as the setting in BIOS Setup. 2. Loop-back. 3. Main board.
Printing failed.	1. Ensure the printer driver is properly installed. Refer to the printer service manual. 2. Printer. 3. Printer cable. 4. Main board.
Printer problems.	1. Refer to the service manual for the printer.
Keyboard	
Some or all keys on keyboard do not work.	1. Keyboard
Power Supply	
Pressing power switch does not turn off system. (Only unplugging the power cord from electrical outlet can turn off the system.)	1. Ensure the Soft-off by PWR-BTTN. in BIOS Setup of Power Management is not set to Instant-off. 2. Power switch cable assembly
Pressing power switch does not turn on the system.	1. Ensure the power override switch (situated at the back of the machine, just above the connector for the power cable) is not set to OFF. 2. Power switch cable assembly.
Executing software shutdown from Windows98 Start menu does not turn off the system. (Only pressing power switch can turn off the system).	1. Load default settings. 2. Reload software from Recovery CD.
No system power, or power supply fan is not running.	1. Power Supply 2. Main board
Other Problems	
Any other problems.	1. Undetermined Problems

Undetermined Problems

If an error message is present, go to “POST Error Messages List” on page 118. If you did not receive any messages, if the symptom is listed in “or “Error Symptoms List” on page 120. If you still cannot solve the problem, continue with this check:

1. Check the power supply voltages. If the voltages are correct continue with the following steps:
2. Power off the system unit.
3. Perform the following checks, one by one, until you have isolated the problem FRU.
4. Load default settings in setup.
5. Check all main board jumper positions and switch settings.
6. Check all adapter card jumper positions.
7. Check all device jumper positions.
8. Check all cables and connectors for proper installation.
9. If the jumpers, switches and voltage settings are correct, remove or disconnect the following, one at a time:
 10. Non-Acer devices
 - ☐ External devices
 - ☐ Any adapter card (modem card, LAN card or video card, if installed)
 - ☐ CD/DVD-ROM drive
 - ☐ Diskette drive
 - ☐ Hard disk drive
 - ☐ DIMM
 - ☐ Processor
 - ☐ Main board
11. Power on the system unit.
12. Repeat steps 2 through 5 until you find the failing device or adapter.

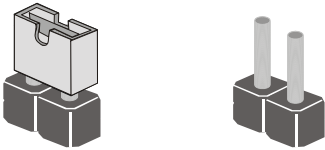
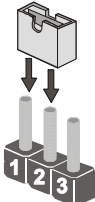
Jumper and Connector Information

Checking Jumper Settings

This section explains how to set jumpers for correct configuration of the mainboard.

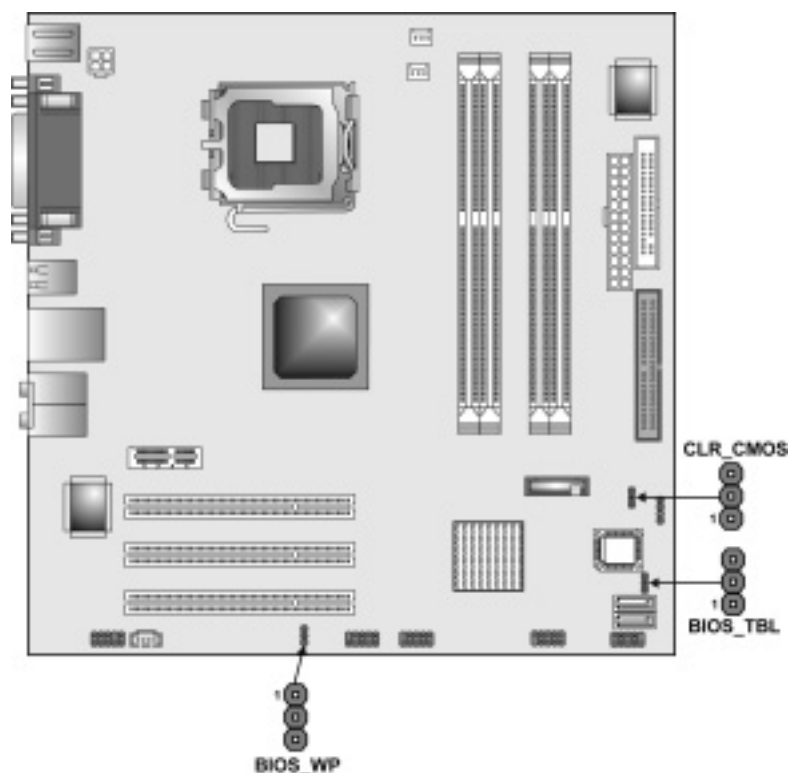
Setting Jumpers

Use the motherboard jumpers to set system configuration options. Jumpers with more than one pin are numbered. When setting the jumpers, ensure that the jumper caps are placed on the correct pins.

Illustration	Description
The illustrations below show a 2-pin jumper. When the jumper cap is placed on both pins, the jumper is SHORT. If you remove the jumper cap, or place the jumper cap on just one pin, the jumper is OPEN.	 Short Open
This illustration shows a 3-pin jumper. Pins 1 and 2 are SHORT.	

Checking Jumper Settings

The following illustration shows the location of the motherboard jumpers. Pin 1 is labeled.

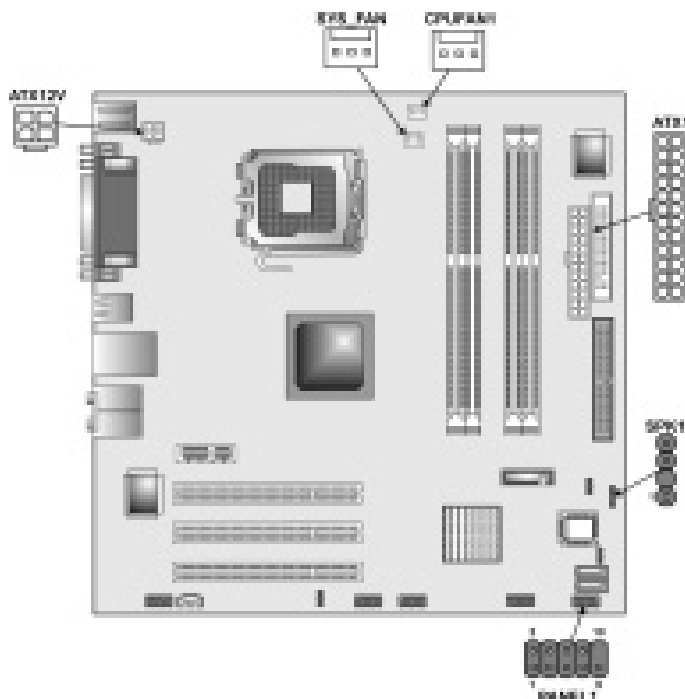


Jumper	Type	Description	Setting (Default)	
CLR_CMOS	3-pin	Clear CMOS	1-2: CLEAR CMOS 2-3: NORMAL Before clearing the CMOS, make sure to turn off the system	CLR_CMOS 
BIOS_WP	3-pin	BIOS_WP	1-2: FLASH WRITE UNPROTECTED 2-3: FLASH WRITE PROTECTED	BIOS_WP 
BIOS_TBL	3-pin	BIOS_TBL	1-2: BOOT BLOCK DISABLE 2-3: BOOT BLOCK ENABLE	BIOS_TBL 

Connecting Case Components

After you have installed the motherboard into a case, you can begin connecting the motherboard components. Refer to the following:

1. Connect the CPU cooling fan cable to **CPUFAN1**.
2. Connect the case cooling fan connector to **SYS_FAN**.
3. Connect the case speaker cable to **SPK1**.
4. Connect the case switches and indicator LEDs to the **F_PANEL**.
5. Connect the standard power supply connector to **ATX1**.
6. Connect the auxiliary power supply connector to **ATX12V**.



CPUFAN1/SYS_FAN: FAN Power Connectors

Pin	Signal Name	Function
1	GND	System Ground
2	+12V	Power +12V
3	Sense	Sensor

SPK1: Internal speaker

Pin	Signal Name
1	Signal
2	Buzzer
3	Key
4	VCC

ATX1: ATX 24-pin Power Connector

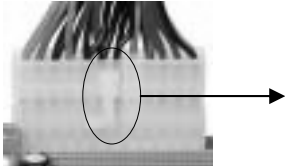
Pin	Signal Name	Pin	Signal Name
1	+3.3V	13	+3.3V
2	+3.3V	14	-12V
3	Ground	15	COM
4	+5V	16	PS ON
5	Ground	17	COM
6	+5V	18	COM
7	Ground	19	COM
8	PWRGD	20	-5V
9	+5VSB	21	+5V
10	+12V	22	+5V
11	+12V	23	+5V
12	+3.3V	24	COM

ATX12V: ATX 12V Power Connector

Pin	Signal Name
1	Ground
2	Ground
3	+12V
4	+12V

Connecting 20/24-pin power cable

Users please note that the 20-pin and 24-pin power cables can both be connected to the ATX1 connector. With the 20-pin power cable, just align the 20-pin power cable with the pin 1 of the ATX1 connector. However, using 20-pin power cable may cause the system to become unbootable and unstable because of insufficient electricity. A minimum power of 300W is recommend for a fully-configured system.

Illustration	Description
 20-pin power cable	Users please note that when installing 20-pin power cable, the latch of power cable falls on the left side of the ATX1 connector latch, just as the picture shows.
 24-pin power cable	Users please note that when installing 24-pin power cable, the latches of power cable and the ATX1 match perfectly.

Front Panel Header

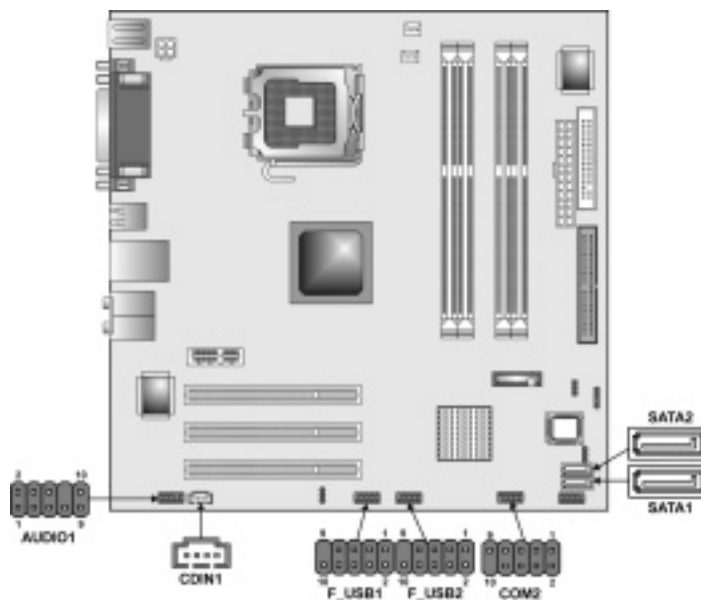
The front panel header (F_PANEL) provides a standard set of switch and LED headers commonly found on ATX or micro-ATX cases. Refer to the table below for information:

Illustration	Pin	Signal	Function	Pin	Signal	Function
 F_PANEL	1	HD_LED_P	Hard disk LED (+)	2	FP PWR/SLP	MSG LED [dual color or single color (+)]
	3	HD_LED_N	Hard disk active LED (-)	4	FP PWR/SLP	MSG LED [dual color or single color (-)]
	5	RST_SW_N	Reset Switch (-)	6	PWR_SW_P	Power Switch (+)
	7	RST_SW_P	Reset Switch (+)	8	PWR_SW_N	Power Switch (-)
	9	RSVD	Reserved	10	Key	No Pin

Signal	Description
Hard Drive Activity LED	Connecting pins 1 and 3 to a front panel mounted LED provides visual indication that data is being read from or written to the hard drive. For the LED to function properly, an IDE drive should be connected to the onboard IDE interface. The LED will also show activity for devices connected to the SCSI (hard drive activity LED) connector.
Power / Sleep / Message Waiting LED	Connecting pins 2 and 4 to a single- or dual-color, front panel mounted LED provides power on/off, sleep, and message waiting indication.
Reset Switch	Supporting the reset function requires connecting pins 5 and 7 to a momentary-contact switch that is normally open. When the switch is closed, the board resets and runs POST.
Power Switch	Supporting the power on/off function requires connecting pins 6 and 8 to a momentary-contact switch that is normally open. The switch should maintain contact for at least 50 ms to signal the power supply to switch on or off. The time requirement is due to internal de-bounce circuitry. After receiving a power on/off signal, at least two seconds elapses before the power supply recognizes another on/off signal.

Connecting Optional Components

Refer to the following for information on connecting the motherboard's optional devices:



Audio1: Front Panel Audio Header

This connector allows the user to install auxiliary front-oriented microphone and line-out ports for easier access.

Pin	Signal Name
1	PORT-FL
2	GND
3	PORT-FR
4	ACZ-DET
5	PORT-ER
6	SENSE1_RETURN
7	SENSE B
8	KEY
9	PORT-EL
10	SENSE2_RETURN

F_usb1/f_usb2: Front Panel Usb Headers

The motherboard has four USB ports installed on the rear edge I/O port array. Additionally, some computer cases have USB ports at the front of the case. If you have this kind of case, use auxiliary USB connector to connect the front-mounted ports to the motherboard.

Pin	Signal Name
1	USB DUAL VCC
2	USB DUAL VCC
3	USBP4-
4	USBP5-
5	USBP4+
6	USBP5+
7	Ground
8	Ground
9	Key
10	USBOC45#

NOTE: Please make sure that the USB cable has the same pin assignment as indicated above. A different pin assignment may cause damage or system hang-up.

AUXIN: Auxiliary-in Connector

This connector can be used as either CDIN1 or AUXIN connector. If it is used as an additional line-in audio (AUXIN) connector, it allows you to attach a line-in cable when your rear line-in jack is set as line out port for 4-channel function.

Pin	Signal Name	Function
1	AUXIN_L	AUX In left channel
2	AGND	Ground
3	AGND	Ground
4	AUXIN_R	AUX In right channel

CDIN1: Primary CD-in Connector

Pin	Signal Name
1	CD-IN-Left
2	GND
3	GND
4	CD-IN-Right

SATA1~SATA2: Serial ATA Connectors

These connectors are used to support the new Serial ATA devices for the highest data transfer rates (150 MB/s), simpler disk drive cabling and easier PC assembly. It eliminates limitations of the current Parallel ATA interface. But maintains register compatibility and software compatibility with Parallel ATA.

Pin	Signal Name	Pin	Signal Name
1	GND	2	TX+
3	TX-	4	GND
5	RX-	6	RX+
7	GND	-	-

COM2: Onboard Serial Port Header

Connect a serial port extension bracket to this header to add a second serial port to your system.

Pin	Signal Name	Function
1	NDCDB	Data carry detect
2	NSINB	Serial Data In
3	NSOUTB	Serial Data Out
4	NDTRB	Data terminal ready
5	GND	Ground
6	NDSRB	Data set ready
7	NRTSB	Request to send
8	NCTSB	Clear to send
9	NRIB	Ring Indicator
10	Key	No Pin

FRU (Field Replaceable Unit) List

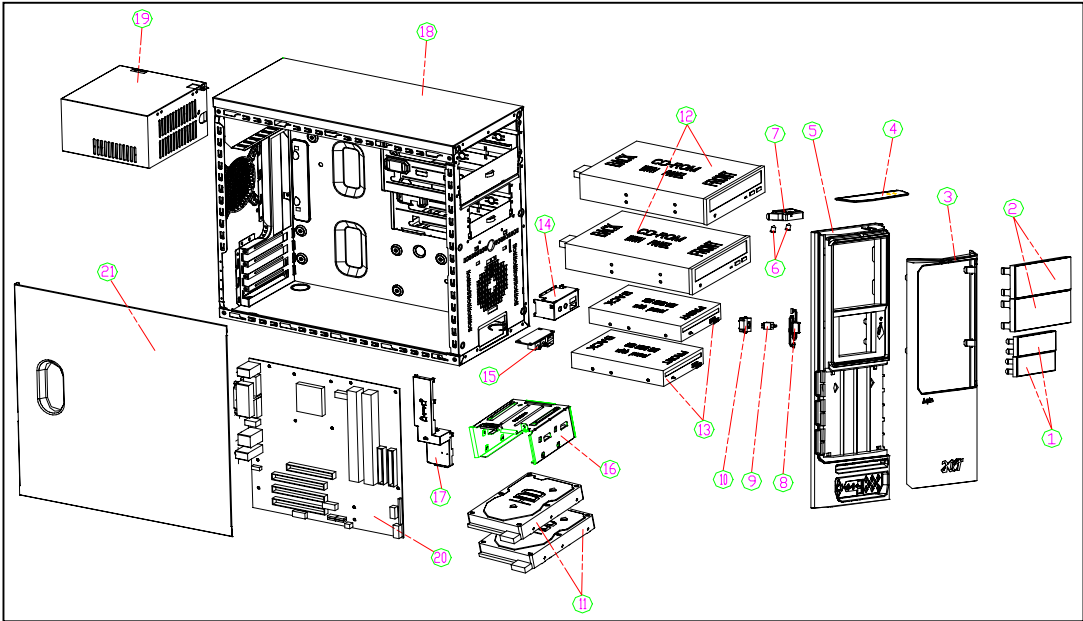
This chapter gives you the FRU (Field Replaceable Unit) listing in global configurations of Aspire T600/AcerPower FV. Refer to this chapter whenever ordering for parts to repair or for RMA (Return Merchandise Authorization).

IMPORTANT: Please note WHEN ORDERING FRU PARTS, that you should check the most up-to-date information available on your regional web or channel. For whatever reasons a part number change is made, it will not be noted in the printed Service Guide. For ACER-AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFERENT part number code to those given in the FRU list of this printed Service Guide. You MUST use the local FRU list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

IMPORTANT: Please note that Acer Corporation sells only the parts listed in the following table. Please be reminded that though some parts are disassembled in Chapter 3 for demonstration purpose, Acer Corporation does not provide these parts.

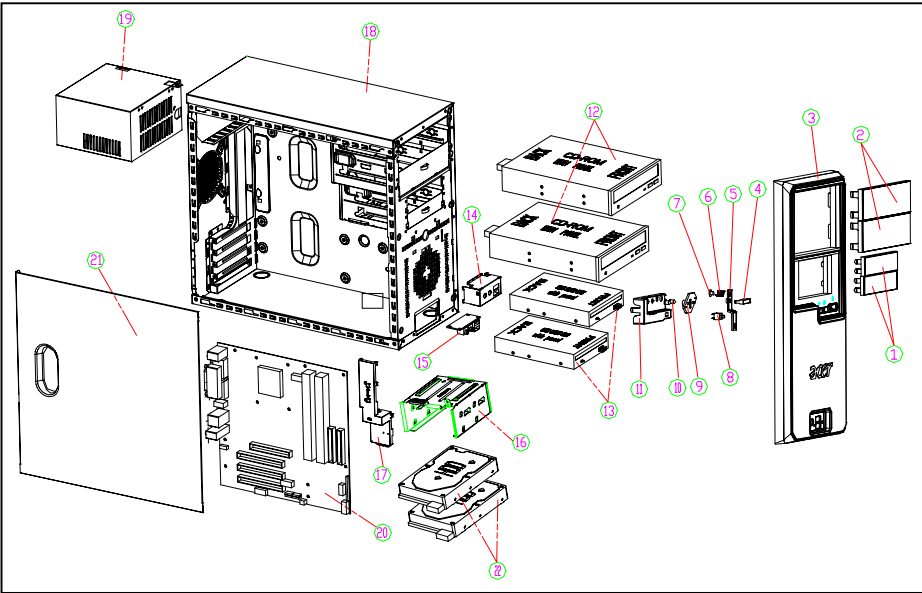
NOTE: To scrap or to return the defective parts, you should follow the local government ordinance or regulations on how best to dispose it, or follow the rules set by your regional Acer office on how to return it. You can access to the website for the latest Parts version <http://aicsl.acer.com.tw/spl/>

Aspire T600 Exploded Diagram



ITEM	DESCRIPTION		ITEM	DESCRIPTION	
1	3.5" FILLER PANEL	2Q396-001	12	CD-ROM	
2	5.25" FILLER PANEL	2L273-113	13	FDD-WITH-PANEL	
3	FRONT-BEZEL	2Q686-002	14	USB BKT	2J017-003
4	TOP-BEZEL	2Q686-003	15	USB BOARD	4E152-002
5	BASE-BEZEL	2Q686-001	16	HDD-BKT	2DC49-006
6	LED CABLE	4S319-007	17	TRACK(EN501C)	2NM29-003
7	LED-HOLDER	2Q686-005	18	CHASSIS	2ZW05-004
8	POWER-BUTTON	2Q686-004	19	POWER-SUPPLY	4A389-005
9	SWITCH CABLE	4S319-008	20	MOTHER BOARD	
10	SWITCH-HOLDER		21	BKT-DOOR	2CR94-023
11	HDD-DISK				

AcerPower FV Exploded Diagram



ITEM	DESCRIPTION		ITEM	DESCRIPTION	
1	3.5" FILLER PANEL	2Q396-001	12	CD-RDM	
2	5.25" FILLER PANEL	2L273-113	13	FDD-WITH-PANEL	
3	FRONT BEZEL PANEL(PAINTED AND SILKED)	2Q723-008	14	USB BKT	2J017-003
4	POWER BUTTON(PAINTED)	2Q723-006	15	USB BOARD	4E152-002
5	POWER BUTTON PUSH POLE	2Q723-004	16	HDD-BKT	2DC49-006
6	SPRING	3H494-001	17	TRACK(EN501C)	2NM29-003
7	SCREW T3*8	3A097-01	18	CHASSIS	2ZW05-004
8	SWITCH CABLE	4S319-008	19	POWER-SUPPLY	4A389-005
9	LED LENS	2Q723-005	20	MOTHER BOARD	
10	LED CABLE	4S319-007	21	BKT-DOOR	2CR94-023
11	LED SWITCH HOLDER	2Q723-002	22	HDD-DISK	

Model Definition and Configuration

The Aspire T600/AcerPower FV Model No. Define:

1. Trade Mark:



2. Brand Name: Acer
3. Description: E91M, Intel 915GV+ICH6, P4 775pin / 4DIMM / 2PCI / 1PCI-E
4. Product Name: Aspire T600/AcerPower FV

Test Compatible Components

This computer's compatibility is a test plan released by Acer Internal Testing Department. Once the final report is available, this chapter will be revised accordingly.

Microsoft Windows XP Home Environment Test

Item	Specifications	Model Description
Mother Board		
ECS	Intel 915GV+ICH6, P4 775pin / 4DIMM / 2PCI /1PCI-E	E91M
	Rear I/O Shielding	Rear I/O Shielding FOR E91M
	MB E91M + Rear I/O Shielding	MB Kit
Processor		
Intel	P4 540 (3.2G 1M 800FSB)	JM80547PG0881M
	P4 530 (3.0G 1M 800FSB)	JM80547PG0801M
	P4 520 (2.8G 1M 800FSB)	JM80547PG0721M
	505-Prescott 2.66GHz	JM80547PE0671M
Retention Module		
Foxconn	RM For Socket T	For 775 CPU Cooler
Cooler		
Foxconn	FXC heatsink (PKP219GB1U12) + Sunon Fan (PMD1208PKV1-A) 4300RPM	
System Fan		
Sunon	Sunon 92X92X25mm 2200RPM System Fan	KDE1209PTV3
Memory-DDR333		
Infineon	DDR 333 256MB 0.11u (black)	HYS64D32300GU-6-C
	DDR 333 512MB 0.11u (black)	HYS64D64320GU-6-C
	DDR 333 128MB 0.11u	HYS64D16301HU-6-C
	DDR 333 512MB 0.11u	HYS64D64320HU-6-C
Nanya	DDR 333 256MB 0.14u 32M*8*8	NT256D64S88B1G-6K
	DDR 333 512MB 0.14u 32M*8*16	NT512D64S8HB1G-6K
Memory-DDR400		
Infineon	DDR400 256MB 0.11u (Black) 32M*8*16 CL=3 (Middle/April)	HYS64D32300GU-5-C
	DDR400 512MB 0.11u (Black) 32M*8*16 CL=3 (Middle/April)	HYS64D64320GU-5-C
Nanya	Nanya DDR400 128MB	NT128D64SH4B1G-5T
	Nanya DDR400 256MB	NT256D64S88B1G-5T
	Nanya DDR400 512MB	NT512D64S8HB1G
Micron	Micron DDR 400 256MB, 0.11u CL = 3	MT8VDDT3264AG-40BGB
	Micron DDR 400 512MB, 0.11u CL = 3	MT16VDDT6464AG-40BGB
Apacer	DDR400 256MB UNB PC3200 CI3	
HDD-SATA		
Seagate	Seagate Puma SATA 80G 7200RPM 8MB	ST380013AS
	Seagate Puma SATA 120G 7200RPM 8MB	ST3120026AS
	Seagate Puma SATA 160G 7200RPM 8MB	ST3160023AS
WD	WD SATA 120G 7200RPM (Middle/April) XL80II	WD1200JD-22HBB0
	WD SATA 160G 7200RPM (Middle/April) XL80II	WD1600JD-22HBB0
	WD SATA 200G 7200RPM (Middle/April) XL80II	WD2000JD-22HBB0
	WD SATA 250G 7200RPM (Middle/April) XL80II	WD2500JD-22HBB0
DVD-ROM		
Lite-On	16X/40X (Black)	SOHD-167T (Black)
CD-RW		
Lite-On	52X/32X/52X CD-RW	LTR-52327S (black)
HLDS	52X/32X/52X	GCE-8525B(black)

Item	Specifications	Model Description
SuperMultiPlus		
HLDS	8X DVD SuperMultiPlus (black)	GSA-4082B (Black)
TV Tuner card		
Leadtek	Tuner Card w/FM/ NTSC /ATX Bkt (Philip MK3 Tuner + 883 chip)	LR 6613-NTSC
	Tuner Card w/FM/ PAL /ATX Bkt (Philip MK3 Tuner + 881 chip)	LR 6611-PAL
Digital TV Tuner Card		
TwinHan	Tuner Card VP-3020C DTV-T card with ATX bracket	VP-3020C
Modem Card		
Askey	HSF, v.92 56K, standard ATX bracket	1456VQHT5 (INT1)
GVC	F-1156I(+)/R12-AAP	
Housing		
Foxconn	Microtower / 3.5"*3 + 5.25"*2 (black)	H602 housing
PSU		
FSP	Power Supply FSP300-60THA(1)	24 pin-Non-PFC
	Power Supply FSP300-60THA(1PF)	24 pin-PFC
FDD		
Panasonic	1.44M 3.5" (black)	JU-256A198PC
Card Reader		
ECS	3.5" (black) 6-in-1 card reader	UCR-61
Wireless Reciever		
Chicony	RF external receiver	WUR0355T
Wireless KB		
Chicony	Wireless KB (silver), KBR0355, US ver., 104 keys	WUR0355T
Wireless Mouse		
Chicony	Chicony wireless mouse (silver), MSR0238T	MSR0238T

Item	Specifications	Model Description
	PS/2 Keyboard, KBP2971, US Ver., 104keys PS/2 Keyboard, KBP2971, T.Chinese Ver., 104keys PS/2 Keyboard, KBP2971, Arabic Ver., 104keys PS/2 Keyboard, KBP2971, Thai Ver., 104keys PS/2 Keyboard, KBP2971, Spanish/US Ver., 105keys PS/2 Keyboard, KBP2971, Int'l US Ver., 104keys PS/2 Keyboard, KBP2971, Canadian/French Ver., 105keys PS/2 Keyboard, KBP2971, Brazilian Ver., 107keys PS/2 Keyboard, KBP2971, UK Ver., 104keys PS/2 Keyboard, KBP2971, French Ver., 105keys PS/2 Keyboard, KBP2971, Germany Ver., 105keys PS/2 Keyboard, KBP2971, Italian Ver., 105keys PS/2 Keyboard, KBP2971, Swiss Ver., 105keys PS/2 Keyboard, KBP2971, Swedish Ver., 105keys PS/2 Keyboard, KBP2971, Belgium Ver., 105keys PS/2 Keyboard, KBP2971, Dutch Ver., 105keys PS/2 Keyboard, KBP2971, Holland Ver., 105keys PS/2 Keyboard, KBP2971, Spanish Ver., 105keys PS/2 Keyboard, KBP2971, Portugese Ver., 105keys PS/2 Keyboard, KBP2971, Iceland Ver., 105keys PS/2 Keyboard, KBP2971, Norwegian Ver., 105keys PS/2 Keyboard, KBP2971, Hebrew Ver., 105keys PS/2 Keyboard, KBP2971, Polish Ver., 105keys PS/2 Keyboard, KBP2971, Slovenian Ver., 105keys PS/2 Keyboard, KBP2971, Slovakian Ver., 105keys PS/2 Keyboard, KBP2971, Turkey Ver., 105keys PS/2 Keyboard, KBP2971, RussiamVer., 104keys PS/2 Keyboard, KBP2971, Hungaria Ver., 105keys PS/2 Keyboard, KBP2971, Greek Ver., 104keys PS/2 Keyboard, KBP2971, Denmark Ver., 105keys PS/2 Keyboard, KBP2971, Czech Ver., 104keys PS/2 Keyboard, KBP2971, US Ver., 104keys, Japan ABS PS/2 Keyboard, KBP2971, Arabic Ver., 104keys, Japan ABS PS/2 Keyboard, KBP2971, Int'l US Ver., 104keys, Japan ABS PS/2 Keyboard, KBP2971, UK Ver., 104keys, Japan ABS PS/2 Keyboard, KBP2971, French Ver., 105keys, Japan ABS PS/2 Keyboard, KBP2971, Germany Ver., 105keys, Japan ABS PS/2 Keyboard, KBP2971, Italian Ver., 105keys, Japan ABS PS/2 Keyboard, KBP2971, Swiss Ver., 105keys, Japan ABS PS/2 Keyboard, KBP2971, Swedish Ver., 105keys, Japan ABS PS/2 Keyboard, KBP2971, Belgium Ver., 105keys, Japan ABS PS/2 Keyboard, KBP2971, Dutch Ver., 105keys, Japan ABS PS/2 Keyboard, KBP2971, Holland Ver., 105keys, Japan ABS PS/2 Keyboard, KBP2971, Spanish Ver., 105keys, Japan ABS	

Item	Specifications	Model Description
	PS/2 Keyboard, KBP2971, Portugese Ver., 105keys, Japan ABS PS/2 Keyboard, KBP2971, Iceland Ver., 105keys, Japan ABS PS/2 Keyboard, KBP2971, Norwegian Ver., 105keys, Japan ABS PS/2 Keyboard, KBP2971, Hebrew Ver., 105keys, Japan ABS PS/2 Keyboard, KBP2971, Polish Ver., 105keys, Japan ABS PS/2 Keyboard, KBP2971, Slovenian Ver., 105keys, Japan ABS PS/2 Keyboard, KBP2971, Slovakian Ver., 105keys, Japan ABS PS/2 Keyboard, KBP2971, Turkey Ver., 105keys, Japan ABS PS/2 Keyboard, KBP2971, RussiamVer., 104keys, Japan ABS PS/2 Keyboard, KBP2971, Hungaria Ver., 105keys, Japan ABS PS/2 Keyboard, KBP2971, Greek Ver., 104keys, Japan ABS PS/2 Keyboard, KBP2971, Denmark Ver., 105keys, Japan ABS PS/2 Keyboard, KBP2971, Czech Ver., 104keys, Japan ABS USB Keyboard, KU0355, US Ver., 104keys USB Keyboard, KU0355, T.Chinese Ver., 104keys USB Keyboard, KU0355, In'l US Ver., 104keys USB Keyboard, KU0355, Arabic Ver., 104keys USB Keyboard, KU0355, Thai Ver., 104keys USB Keyboard, KU0355, Germany Ver., 105keys USB Keyboard, KU0355, Italian Ver., 105keys USB Keyboard, KU0355, French Ver., 105keys USB Keyboard, KU0355, Sweden Ver., 105keys USB Keyboard, KU0355, UK Ver., 104keys USB Keyboard, KU0355, Spanish Ver., 105keys USB Keyboard, KU0355, Dutch Ver., 105keys USB Keyboard, KU0355, Portugese Ver., 105keys USB Keyboard, KU0355, Canadian/French Ver., 105keys USB Keyboard, KU0355, Brazilian Ver., 107keys USB Keyboard, KU0355, Swiss Ver., 105keys USB Keyboard, KU0355, Belgium Ver., 105keys USB Keyboard, KU0355, Holland Ver., 105keys USB Keyboard, KU0355, Iceland Ver., 105keys USB Keyboard, KU0355, Norwegian Ver., 105keys USB Keyboard, KU0355, Hebrew Ver., 105keys USB Keyboard, KU0355, Polish Ver., 105keys USB Keyboard, KU0355, Slovenian Ver., 105keys USB Keyboard, KU0355, Slovakian Ver., 105keys USB Keyboard, KU0355, Turkey Ver., 105keys USB Keyboard, KU0355, RussiamVer., 104keys USB Keyboard, KU0355, Hungaria Ver., 105keys	

Item	Specifications	Model Description
	USB Keyboard, KU0355, Greek Ver., 104keys USB Keyboard, KU0355, Denmark Ver., 104keys USB Keyboard, KU0355, Czech Ver., 104keys USB Keyboard, KU-0355, US Ver., 104keys, Japan ABS USB Keyboard, KU-0355, In'l US Ver., 104keys, Japan ABS USB Keyboard, KU-0355, Arabic Ver., 104keys, Japan ABS USB Keyboard, KU-0355, Germany Ver., 105keys, Japan ABS USB Keyboard, KU-0355, Italian Ver., 105keys, Japan ABS USB Keyboard, KU-0355, French Ver., 105keys, Japan ABS USB Keyboard, KU-0355, Sweden Ver., 105keys, Japan ABS USB Keyboard, KU-0355, UK Ver., 104keys, Japan ABS USB Keyboard, KU-0355, Spanish Ver., 105keys, Japan ABS USB Keyboard, KU-0355, Dutch Ver., 105keys, Japan ABS USB Keyboard, KU-0355, Portugese Ver., 105keys, Japan ABS USB Keyboard, KU-0355, Swiss Ver., 105keys, Japan ABS USB Keyboard, KU-0355, Belgium Ver., 105keys, Japan ABS USB Keyboard, KU-0355, Holland Ver., 105keys, Japan ABS USB Keyboard, KU-0355, Iceland Ver., 105keys, Japan ABS USB Keyboard, KU-0355, Norwegian Ver., 105keys, Japan ABS USB Keyboard, KU-0355, Hebrew Ver., 105keys, Japan ABS USB Keyboard, KU-0355, Polish Ver., 105keys, Japan ABS USB Keyboard, KU-0355, Slovenian Ver., 105keys, Japan ABS USB Keyboard, KU-0355, Slovakian Ver., 105keys, Japan ABS USB Keyboard, KU-0355, Turkey Ver., 105keys, Japan ABS USB Keyboard, KU-0355, RussiamVer., 104keys, Japan ABS USB Keyboard, KU-0355, Hungaria Ver., 105keys, Japan ABS USB Keyboard, KU-0355, Greek Ver., 104keys, Japan ABS USB Keyboard, KU-0355, Denmark Ver., 104keys, Japan ABS USB Keyboard, KU-0355, Czech Ver., 104keys, Japan ABS	
Mouse		
Logitech	USB Optical Mouse, 2 button+wheel (silver)	M-UV ACR1(black)
Speaker		
Neosonica	USB, 3" *2	Thyme510(white)(black)

Online Support Information

This section describes online technical support services available to help you repair your Acer Systems. If you are a distributor, dealer, ASP or TPM, please refer your technical queries to your local Acer branch office. Acer Branch Offices and Regional Business Units may access our website. However some information sources will require a user i.d. and password. These can be obtained directly from Acer CSD Taiwan. Acer's Website offers you convenient and valuable support resources whenever you need them.

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- ☐ Service guides for all models
- ☐ User's manuals
- ☐ Training materials
- ☐ Bios updates
- ☐ Software utilities
- ☐ Spare parts lists
- ☐ TABs (Technical Announcement Bulletin)

For these purposes, we have included an Acrobat File to facilitate the problem-free downloading of our technical material.

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- ☐ Detailed information on Acer's International Traveler's Warranty (ITW)
- ☐ An overview of all the support services we offer, accompanied by a list of telephone, fax and email contacts for all your technical queries.

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